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ABSTRACT

These papers deal with a variety of topics bearing on modality in a variety of languages and language families. While all languages have ways of expressing modality, that is, such notions as possibility, necessity, and contingency, this phenomenon has been the object of little systematic linguistic analysis. These papers are presented with the hope that they will stimulate comments from the profession. The papers are: (1) "Modality in Malay," by A. A. Idris; (2) "Subjective Modality," by C. Seibel; (3) "Modality in Alsatian," by M. A. Hessini; (4) "What Could Dekiru Possibly Mean?" by W. L. Wight; (5) "A Note on 'Can' and 'May,'" by C. Oh and C. Seibel; (6) "The Subjunctive in Spanish," by J. Miguel Solano; (7) "Modality in Modern Hebrew," by E. Dromi; (8) "Stackability of Modalities," by I. S. Shaw; (9) "A Cross-Linguistic Look at Future Markers," by P. J. Hamel; and (10) "The Turkish Future Marker," by F. Yavas. A bibliography on modalities completes the volume. (AMH)

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Patricia Hamel and Ronald Schaefer

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PREFACE

As far as is known, all languages have ways of expressing modality, i.e., notions of possibility, necessity, contingency, etc. But this pervasive phenomenon has so far been the object of little systematic linguistic analysis. In fact, investigators do not even agree on the scope of the term modality. Very roughly speaking, two kinds of modality have been distinguished, namely epistemic and deontic. The former involves the speaker's judgment as to the degree of certainty of an event or state of affairs being referred to. Deontic modality, on the other hand, has to do with such notions as obligation, permissability and necessity. However, as useful as this distinction is, little is known so far concerning the linguistic patterns which express those ideas. It is clear that the modality systems of a great many languages will need to be thoroughly scrutinized and compared before any conclusions can be drawn as to their place in 'universal grammar.'

The papers included in this volume of the Kansas Working Papers in Linguistics were written by graduate students at the University of Kansas for a seminar on modality taught by Professor Choon-Kyu Oh in the spring of 1979. They deal with a variety of topics bearing on modality and with a variety of languages and language families. It is our hope that these papers will stimulate comments from colleagues at other institutions.

The Editors

CONTENTS

	Page
Modality in Malay Abdul Aziz Idris	1
Subjective Modality Charles Seibel	15
Modality in Alsatian Marguerite A. Hessini	21
What Could *Dekiru* Possibly Mean? W. L. Wight	51
A Note on *Can* and *May* Choon-Kyu Oh and Charles Seibel	67
The Subjunctive in Spanish J. Miguel Solano	71
Modality in Modern Hebrew Esther Dromi	99
Stackability of Modalities Ines Senna Shaw	115
A Cross-Linguistic Look at Future Markers Patricia J. Hamel	133
The Turkish Future Marker Feryal Yavaş	139
A Bibliography on Modalities	151

MODALITY IN MALAY

Abdul Aziz Idris

Abstract: This study of the modal expressions in Malay will be focused on the major syntactic characteristics of modality in relation to various speech acts, negation and tense/aspect. In attempting to characterize the semantic properties of modal expressions, and in justifying their categorization into two major types of modalities, epistemic or root/deontic, we will use intuitive or non-linguistic criteria together with linguistic criteria. Finally, based on generalizations that can be concluded from this study, we will discuss whether or not they fit into some of the tentative or quasi-universals already established elsewhere.

The modal expressions that will be discussed in this paper are the following[1]:

mungkin[2]	-	possible
boleh jadi	-	may
barangkali	-	probable
mesti	-	must
boleh	-	can/may
terpaksa	-	have to
patut	-	should/ought to

Table I

These modal expressions may be grouped into three major categories, namely epistemic, root and both epistemic and root as shown below.

Epistemic	Root	Epistemic/Root
mungkin	boleh	mesti
boleh jadi	patut	
barangkali	terpaksa	
mesti	mesti	

Table II

The meaning of the epistemic modal expressions ranges from mere "possibility", mungkin/boleh jadi, to "strong possibility", or "near certainty" exemplified by mesti. In the case of the root category the meaning ranges from "permission", boleh, to "strong obligation", mesti. As seen from Table II there is only one modal that is ambiguous, i.e. mesti, which can be both epistemic and root in reading as in the following sentence.

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(1) Dia mesti tidor.
he must sleep
'He must sleep.'

The two possible readings of sentence (1) are: "I am certain that he is asleep" (epistemic) and "He is required or obliged to sleep." The sentence could, however, be disambiguated by providing the proper context such as "sebab dia letih" (because he is tired) for the first reading, and "jika dia mahu bangun pagi" (if he wants to wake up early) for the second.

Within the root category, boleh is ambiguous. It can be interpreted as "permission" or "ability," but it could also be disambiguated if provided with a suitable context.

(2) Dina boleh masak nasi.
Dina can/may cook rice
'Dina is able/may cook rice.'

I will leave further discussion of the ambiguous modal expressions until later, after some of their basic syntactic and semantic properties and their relations have been discussed.

The epistemic modals in Malay are mungkin, boleh jadi, barangkali, and mesti. Mungkin and boleh jadi are semantically equivalent: both have the meaning of possibility as in the English modal may. As mentioned earlier, the former is an Arabic loan. The Arabic equivalent for mungkin is mumkin (ممكن), an adjective, and is glossed as "possible." Barangkali is equivalent to probable in English, while mesti is equivalent to the English must.

The root modals in Malay are boleh, patut, terpaksa and mesti. Boleh is ambiguous between "permission" and "ability" in much the same way as English can is ambiguous. Patut is something like English should, a weak obligation or, more appropriately, a suggestion that is avoidable. This aspect of patut is exemplified in the following sentence with the circumfix se.....nya, which implies that the subject did not carry out the obligation.

(3) Dia sepatutnya pergi[3].
he should go
'He should have gone, (but didn't).'

The third modal expression, terpaksa, is something like the English have to, but in this case the obligation is not necessarily imposed by the speaker but also by rules, laws or norms imposed by society or nature. Finally, mesti is defined as a "strong obligation."

The epistemic and root modals behave differently in declarative affirmative sentences. The epistemic modalities may occur in either of two positions, namely (i) sentence initial position or (ii) immediately preceding the main verb of the sentence. In both environments, the meaning of the sentence remains identical, and the epistemicity of the modal is maintained. In all cases the modals are subjective, expressing the speaker's assessment of the possibility or probability of the proposition embedded in the sentence[4].

(4)(a) John mungkin letih.
John may tired

(b) Mungkin John letih.
may John tired
'John may be tired.'

(5)(a) Siti boleh jadi pergi.
Siti may go

(b) Boleh jadi Siti pergi.
may Siti go
'Siti may go.'

(6)(a) Dia barangkali seorang pelajar.
be probable a student

(b) Barangkali dia seorang pelajar.
probable he a student
'He is probably a student.'

(7)(a) Dia mesti sakit.
he certain sick

(b) Mesti dia sakit.
certain he sick
'He must be sick.'

Some root modals can also occur in the same environments as the epistemic modals. These root modals, however, do not seem to maintain the consistency of meaning characteristic of the epistemic modals mentioned above. Boleh, for example, in sentence (8) has "permission" and "ability" readings, but in sentence (9) the "permission" reading is lost. The "ability" reading is maintained in (9), the only difference being that the modal is emphasized.

(8) Ahmad boleh baca buku itu.
Ahmad can read book DET
'Ahmad can read the book' (permission)
'Ahmad is able to read the book' (ability).

(9) Boleh Ahmad baca buku itu.
can Ahmad read book DET
'Ahmad is able to read the book' (ability).

In sentences (10) and (11), the root meaning of the modals terpaksa and patut is maintained, but the modals in the (b) sentences are emphasized. Mesti, however, loses its root meaning when placed in sentence initial position. In example (12b), mesti placed in sentence initial position assumes only the epistemic reading of "certainty."

(10)(a) Ahmad terpaksa membeli buku itu.
Ahmad has to buy book DET
'Ahmad has to buy the book.'

(b) Terpaksa Ahmad membeli buku itu.
has to Ahmad buy book DET
'Ahmad has to buy the book.'

(11)(a) Lim patut kuruskan badannya.
Lim should slim body POSS
'Lim should slim down.'

(b) Patut Lim kuruskan badannya.
should Lim slim body POSS
'Lim should slim down.'

(12)(a) Dia mesti lulus peperiksaan itu.
he must pass examination DET
'He must pass the examination.' (root/epistemic)

(b) Mesti dia lulus peperiksaan itu.
must he pass examination DET
'He must (certain) pass the examination."
(epistemic)

From the above, it can be concluded that Malay epistemic modals can occur in (i) sentence initial position and (ii) pre-main verb position without changing the basic meaning of the sentence. Some root modals such as terpaksa and patut maintain their root readings in both environments, while other root modals such as boleh and mesti lose their "permission" and "obligation" meanings, respectively, in sentence initial position.

Epistemic modalities are not used in yes-no or information-seeking questions. Of the four modal expressions in this category, only one, mungkin, seems quite acceptable in yes-no types of questions, while boleh jadi is not acceptable to many speakers. When it is used, it seems to be the type of question one asks oneself, to ascertain certain propositions, and not the type that one asks of another in search of information.

(13) Mungkin(kah) Ahmad pergi?
may QM Ahmad go
?'May Ahmad go?'

Boleh jadi, barangkali and mesti do not seem to be acceptable in any type of interrogative yes-no question. It appears that the greater the degree of possibility, as denoted by barangkali and mesti, the less the likelihood of one asking questions to ascertain the proposition that follows the modal.[5] It may be acceptable to some native speakers of English to ask questions with the epistemic may, as in "May he go?" with the connotation of wondering to oneself, but it may not be possible or acceptable to impose such connotation with the epistemic must.

The root modals in Malay, however, may be used in information-seeking questions. Questions such as the following are quite acceptable in Malay and they necessitate some appropriate answers on the part of the hearer.

(14) Boleh(kah) dia masak?
can QM he cook
'Is he able to cook?' (ability)
'Can he cook?' (permission)

(15) Patut(kah) dia pergi?
should QM he go
'Should he go?' (obligation)

(16) Terpaksa(kah) dia hafalkan ayat itu?
have QM he memorize sentence DET
'Does he have to memorize the sentence?'

(17) Mesti(kah) dia makan obat itu?
must QM he eat medicine DET
'Must he take the medicine?'

One major syntactic property of Malay modals, which distinguishes epistemic modals from root modals, is the exclusion of epistemic modals from the 'if' clause of additional sentences. This may be due to the fact that 'if' already presupposes the concept of possibility which forms the base of the meaning of epistemic modals. The sentences in (18), which include epistemic modals, are ungrammatical while sentences in (19) are grammatical and acceptable. Thus, the ambiguous mesti can only have the root reading in conditional sentences.

(18) *Jika dia (mungkin) / (boleh jadi) / (barangkali) / (mesti) pergi, siapkan barangnya.
If he ____ go get ready things POSS
MODALS (epistemic)

(19) Jika dia (terpaksa) / (boleh) / (patut) / (mesti) pergi, siapkan barangnya.
If he go get ready things POSS
MODALS (root)

In sentences containing modal expressions, there are two possible domains for the negative. The modality may be negated as in the example It is not possible that ..... or the embedded sentence is negated as in the sentence It is possible that.....not..... . The former is also called external negation while the latter is often called internal negation. The following are examples in Malay showing the place of negation in relation to modal expressions.

(20) Mereka mungkin tidak pergi sekolah.
they possible NEG go school
'They may not go to school.'

(21) Tidak mungkin mereka pergi sekolah.
NEG possible they go school
'It is not possible that they will go to school.'

(22) Dia boleh jadi tidak suka saya.
he may NEG like me
'He may not like me.'

(23) *Tidak boleh jadi dia suka saya.
NEG may he like me

(24) Awin barangkali tidak lambat.
Awin probably not late
'Awin is probably not late.'

(25) *Tidak barangkali Awin lambat.
NEG probably Awin late

(26) Dia mesti tidak belajar.
he must NEG study
'I am certain that he does not study.'

(27) *Tidak mesti dia belajar[6].
NEG must he study

From the above examples of the use of negation in relation to epistemic modalities in Malay, one can observe that only internal negation or negation of the embedded clause is allowed with epistemic modalities, except for mungkin, which can be negated externally as well as internally. As mentioned earlier mungkin is an Arabic loan, the original form being mumkin (ممكن), an adjective translated as "possible." Mumkin is negated in Arabic by using the negative marker gair (غير); the expression gair mumkin would then be equivalent to impossible or it is impossible. Based on this, one may conclude that the verbals or verbal auxiliaries such as boleh jadi, barangkali and mesti used in epistemic senses, in principle, may not be externally negated. Mungkin, in Malay, thus functions as an adjective which can be externally negated, sharing the characteristics of the English adjectival it is possible which can be externally negated.

The root modals in Malay can be negated externally as in the following examples.

(28) Dia tidak (a. boleh / b. terpaksa / c. patut / d. mesti) belajar
he NEG MODAL study

The variations of the sentence roughly read as follows: (a) He is not permitted to study, or he is not able to study; (b) He is not obliged to study; (c) It is not the case that he should study; (d) He is not required to study. The negative marker may also follow the modals, but it brings forth some inconsistencies in the root meanings of the modals. In some cases, the root meaning emerges only if forced. In others, the root meaning is lost, or the form itself becomes unacceptable.

(29) Dia (a. boleh / b. terpaksa / c. *patut / d. mesti) tidak belajar
he MODAL NEG study

In (a) the only reading which is acceptable is that of "permission," i.e., "He is permitted not to study." The "ability" reading which makes this form ambiguous in other types of sentences is lost. In (b) the reading "He is obliged not to study" is normally unacceptable unless forced by a context such as "obligation not to

study because of more important matters at hand." In this case the obligation is not imposed by the speaker but by some other forces, and the speaker may or may not concur with the obligation imposed on the subject. I find (c) unacceptable, and I can't find any situation in which any reading can be forced. (d) is purely epistemic in reading, i.e., "I am certain that he does not study."

From the discussion of negation, it appears, when root modals are negated externally, the root meaning of the modals is consistently retained. When negation follows the modal expressions, the basic root reading seems to emerge only in forced contexts (29b), loses one of its root meanings (29a), or the sentences become unacceptable as in the case of (29c). Internal negation, however, disambiguates boleh and mesti. Internal negation of boleh (permission/ability) leaves it with a "permission" reading while internal negation of mesti (root/epistemic) reduces it to the "possibility" (epistemic) reading.

At this juncture it is appropriate to discuss the relation between negation and question in modal sentences. Earlier in this paper we discussed negation of an epistemic modality, i.e., mungkin - tidak (NEG) mungkin (see 21) while other epistemic modalities in the language do not appear to be negatable. This somehow had to do with the type of modality of mungkin. Based on its adjectival function in Arabic, it can be assumed that mungkin is not a verbal auxiliary or a true modal. It is negatable as the English non-verbal possible (as in it is not possible). Based on this assumption the epistemic modality in Malay may tentatively be categorized into verbals or verbal auxiliaries, consisting of the borrowed mungkin. The epistemic modals or verbals are not negatable nor can they be used in information-seeking questions while the adjectival mungkin may be used for both processes. In relation to the aspects of negatability and questionability there seems to be a correlation between different categories of the epistemic modalities. Root modals, on the other hand, as shown in (14) - (17) and (28) may be negated and questioned.

Malay verbs are not conjugated to indicate time (past, present, future, etc). Instead an aspect system or time adverbials such as besok (tomorrow), kelmarin (yesterday), hari ini (today), sekarang (now) etc. are used to indicate time. Aspect markers or adverbials are not obligatory in a sentence and are normally used as emphasis or clarification. Aspect markers can occur in a sentence.

(30) Dia telah tinggal di sana tahun lalu.
he PERF live at there year last
'He (lived) there last year.'
(had lived)
(had been living)

In sentences with epistemic modal expressions, the aspect markers occur between the modal expressions and the verb. In instances where adverbials are used, they normally occur in sentence final position.

(31) Dia mungkin (telah) jual keretanya.
(sedang)
he MODAL (akan) sell car POSS

ASPECT

'He may (have sold) his car.'
(be selling)
(sell)

(32) Dia mesti pergi (a. besok).
(b. kelmarin)
he MODAL go (c. sekarang)

ADVERBIAL

'I am certain he (a. will go tomorrow).'
(b. went yesterday)
(c. is going now)

In the above examples, the scope of the aspect markers and the adverbials is limited to the embedded sentences. In other words, epistemic modals cannot have temporal aspect. They are basically present or neutral in time, and this correlates with the subjectivity of epistemic modals, which are based on the speaker's current knowledge. However, unlike the sentences in (31), (32a) and (32c) are ambiguous. They can be epistemic as well as root in interpretation. Sentence (32b), on the other hand, is only epistemic, which may be explained by the fact that obligation may only be imposed at non-past time.

In sentences with root modals, adverbials such as besok, kelmarin, etc. generally occur at the end of the sentence, a characteristic shared by both epistemic and root modals in the language. However, there is a limitation on the type of adverbials that can exist at the end of sentences with at least two root modals, i.e., boleh (permission), mesti (requirement). These root modals cannot occur with adverbials of past time, though there seems to be no constraint on their co-occurrence with present or future time.

(33) Dia boleh/mesti masak (besok) (tomorrow)
(petang ini) (this evening)
he MODAL cook (hari ini) (today)
(*kelmarin) (yesterday)
(*pagi tadi) (this morning-
past

ADVERBIAL

From the above examples, it can be safely assumed that permission and obligation cannot be imposed on the subject regarding time that has already passed. Such permission or obligation can only be imposed in future time. This, however, seems to be contradictory when the root modals patut and terpaksa are considered. These two modals, while normally acceptable when they co-occur with future or present adverbials, are equally as acceptable with past adverbials.

(34) Dia sepatutnya/terpaksa tidor lambat (kelmarin)
(yesterday)
he MODAL sleep late (malam tadi)
(last night)

With sepatutnya the sentence has the reading "He should have slept late yesterday/last night." With terpaksa it reads: "He had to sleep late yesterday/last night." This difference may be explained by the semantic properties of the two modals, which to some degree differ from that of boleh/mesti. Semantically, terpaksa and patut are something like an interpretation of the English should, which Boyd and Thorne (1969) explain as not a demand made by the speaker, but a demand that somebody or something makes on the subject of the sentence. Based on this interpretation of the two modals, it can be explained that sentence (34) is acceptable because it is a comment on a past demand or obligation made by another person or a situation.

All the root modals, except for boleh, (ability) are unmarked for time externally or internally. The aspect markers that occur before boleh are all statements of past, future, or current ability. They are normally used to emphasize the time aspect of the modal.

(35) Dia telah boleh membaca.
he PERF able read
'He has been able to read.'

(36) Jika dia rajin, dia akan boleh sudahkan kerja itu.
if he work hard he FUT able to finish work DET
'If he works hard he will be able to finish the work.'

To conclude this section on modality in Malay, in relation to time, we can generalize that root modal expressions in Malay, especially those with "permission/obligation" readings, are not characterized by aspect markers while in sentences with epistemic modalities, only the embedded sentences may be indicated for time by aspect markers. When adverbials indicating time are used, speaker's permission or speaker-imposed obligation is limited to present or future adverbials.

This discussion of modality in Malay is not an exhaustive one. Several other aspects of the use of modality in Malay such as

characteristics or properties of modals in relation to various classes of verbs, transformations such as passivization as well as pragmatic considerations need to be looked into in order to obtain a fuller understanding of modality. However, based on the aspects already discussed, several generalizations may be made at this point.

Modal expressions in a language can be made of verbal auxiliaries, verbs (as in Hebrew) and non-verbals such as adjectives, adverbs and nouns (Kress, 1976). Based on their syntactic properties, modal expressions in Malay can basically be categorized into two groups, namely modals and adjectives. However, it is difficult to determine which is which. In English it is at least relatively simple to distinguish the verbal modals from the non-verbal periphrastic expressions. The former are normally single-word expressions such as can, may, etc. while the latter of the form "it is possible/probable/certain that...." Such a distinction does not exist in Malay. Modals do, however, differ in relation to negation and question, as in the case of mungkin, which I have categorized as non-verbal. Further analysis is needed to differentiate which modals are verbal expressions and which are not. In any case, modal expressions in Malay fit into the two major categories of verbals and non-verbals.

One of the basic characteristics of epistemic modals found in most languages is the unnaturalness of yes-no questions with such modals. Questions with such modals seem to have a connotation of "wondering to oneself" which seems inappropriate if we are to assume that epistemic modals are generally based on the speaker's current knowledge. Epistemic modals in Malay such as barangkali, boleh jadi and mesti similarly sound odd when used in yes-no questions.

One widely accepted generalization about modalities in many languages is their use in conditional sentences with 'if' clauses. Epistemic modals are not semantically acceptable in such sentences. Root modals, on the other hand, are acceptable. This seems to be true also in Malay.

Root modals with "permission" and "obligation" readings are not acceptable in past and progressive time in many languages. Root modals with ability and past-imposed obligation by forces other than the speaker seem to be acceptable. The Malay boleh (permission) and mesti (requirement - strong obligation) seem to concur with this characteristic.

In Malay root modals are both negatable as well as questionable. This property of the root modals seems to be shared by root modals in most languages.

Horn (1972) claims that there is a systematic connection between root modality and epistemic modality. This claim was supported by

Steele (1975) in her study of Kampangan, Thai, Luiseño and Classical Aztec. According to Horn's classification, the root and epistemic modalities can be classified into three major divisions depending on the degree of possibility or obligation. The following is the classification of English epistemic and root modals according to the degree of intensity of possibility and obligation[7].

Modal	Epistemic	Root
may	possibility	permission
should	probability	weak obligation
must	certainty	strong obligation

Table III.

Horn claims that one should be extremely skeptical if one finds that in a language "certainty" correlates with "permission", or "possibility" correlates with "strong obligation." In other words, the epistemic modal with lowest value must correlate with the root modal with the same value and so on.

The epistemic modal expressions in Malay discussed above are four in number. They can be reduced to three to fit the above categorization, because mungkin is semantically synonymous to boleh jadi. The root modals can likewise be reduced to three because terpaksa is more or less like mesti. The main difference between the two is that the obligation in terpaksa is not normally imposed by the speaker. Based on the above classification the modals in Malay fit into the major values set by Horn.

Epistemic	Modal	Modal	Root
possibility	boleh jadi	boleh	permission
probability	barangkali	patut	weak obligation
certainty	mesti	mesti	strong obligation

Table IV.

Steele states that "when modals in any one language are ambiguous they are ambiguous in a predicted fashion." (1975:57). Ambiguity between epistemic and root modals occurs only in modals of the same value. For example, in English the ambiguity of may occurs only at the lowest value, i.e., between "possibility" and "permission." In Luiseño xu is ambiguous only between "strong obligation" and "certainty." In Malay, the modal mesti can be both epistemic and root in interpretation. Based on Table IV it is clear that the ambiguity of mesti occurs only at the highest value, i.e., between "certainty" (epistemic) and "strong obligation" (root).

Footnotes

1 Because of the lack of studies on modality in Malay, we will leave them for the moment syntactically undefined in terms of grammatical categories such as auxiliaries, adjectives, adverbials, etc. Some tentative categorizations will however be made based on the syntactic properties of the modal expressions as we go along.

2 Mungkin is an Arabic loan.

3 The circumfix se.....nya appears to be affixed only to patut and not the other three root modals in the language. This can be explained by the fact that it falls in the category of "weak obligation" which provides the subject with a choice. Moreover, like its English equivalent, should have, it states an unaccomplished past obligation, which makes it reportable.

4 See Siebel in this volume.

5 Similarly, as an epistemic modal approaches reality as in mesti (certainty) it cannot be contradicted, as shown in the following examples:

1. Dia mungkin sakit, mungkin tidak.
   'He may (be) sick, may (be) not.'

2. *Dia mesti sakit, mesti tidak.
   *'He must (be) sick, must not.'

6 This sentence is however acceptable, but with the root meaning i.e. "He is not obliged to study."

7 Root modal with ability reading is not considered in their argument.

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SUBJECTIVE MODALITY

Charles Seibel

ABSTRACT: Modal expressions place propositions somewhere on a scale of likelihood. If the basis for placement is the current knowledge of the speaker, we can speak of subjective modality. In English, may and must are subjective modals. In this paper they are compared with their non-subjective or objective counterparts both semantically and syntactically. Modals in several other languages are considered in an attempt to show that there is a widespread, if not universal, tendency to contrast subjective and objective modality.

The following terms will be used in the study. A proposition is the meaning of a sentence. A world is the set of propositions which are true in a certain state of affairs. A base set is a consistent set of propositions according to which a modal is interpreted. A proposition is possible if and only if it is in at least one of the possible worlds that are compatible with the base set. A proposition is necessary if and only if it is in all the possible worlds which are compatible with the base set. (The base set and thus the set of possible worlds being considered in the utterance of any modal sentence in a natural language vary with the sort of modal expression employed and with the context, but it is probably always less than the set of all possible worlds.)

A distinction is often made between epistemic and root modality. Root modals are said to express permission, obligation, and ability, whereas the meanings of epistemic modals are said to range from possibility to certainty. The validity of this dichotomy and the relationship between the two categories are not crucial for the current study. Let it simply be said that the subjective/objective distinction is made by slicing through a modal system in a different direction from that of the epistemic/root cut, and that in this paper the focus will be on the so-called epistemic modals.

If we take English as our starting and reference point and begin with the possibility end of the epistemic modality scale, we immediately confront the sticky problem presented by can and may. If we lay aside clearly root uses, we will be ignoring sentences like (1-3).

1. Laura can speak French.
2. Can you see him yet?
3. a. You may smoke.
   b. You can smoke.

However, it is interesting to note that speakers for whom permissive may and can are in complementary distribution would use (3a) to grant their own permission and (3b) to tell someone that some other authority permits smoking at that time and place. The distinction I want to make between epistemic can and may is similar and, apparently, related. May means possibility based on speaker's authority. It predicates of a proposition that the proposition is true in a possible world compatible with his current

Kansas Working Papers in Linguistics, Vol 5, No. 1, pp. 15 - 20

knowledge; the propositions making up his knowledge of the actual world are serving as the base set. That is what I mean by subjective modality. Can, on the other hand, means that the proposition in its domain is true in some possible world compatible with some relevant base set. In more intuitive terms, may is a weak guess or a prediction or, at least, an assertion that the speaker, although he doesn't know if a proposition is true or not, has no compelling reason to believe that it is (or was or will be) false in the actual world. Can means that there is nothing keeping the proposition from being true, the kinds of obstructions being considered depending on the context and the speaker's attitude. Can can be used more freely than may. The speaker using can is not necessarily committing himself to even a weak conjecture about the realization of the proposition. Therefore, the speaker can utter (4a) truthfully even if he is personally certain that the treaty in question will not be signed for weeks. Under the same circumstances he cannot utter (4b).

4. a. All the parties are present. The treaty can be signed any time.
   b. All the parties are present. The treaty may be signed any time.

In (4a) the speaker is saying that there are no physical obstructions, such as one of the parties being absent, to prevent the signing; in (4b) he is saying that he has no compelling reason to believe that the treaty won't be signed soon. If the speaker feels certain that the treaty won't be signed soon, the proposition is false in all possible worlds compatible with his knowledge, even though it is not false in all possible worlds compatible with other relevant base sets, i.e., even though it is not truly impossible.

It should be pointed out that the past forms of can and may are used more frequently for epistemic possibility that the non-past forms. This is especially true of can when a proposition conflicts with the speaker's beliefs, but the subjective/objective distinction remains, as can be seen by comparing these sentences:

5. a. The peace treaty could be signed, but it won't be.
   b.*The peace treaty might be signed, but it won't be.

Further evidence for the distinction between may and can arises when they are put in negative and interrogative sentences. Inserting not after may does not negate the possibility modal but rather the main verb (i.e., the demodalized proposition). This is usually called internal negation. Using not with can negates the possibility (external negation). Compare these sentences:

6. a. The peace treaty cannot be signed.
   b. The peace treaty may not be signed.

Furthermore, epistemic may is unlike can in that it seems unnatural in questions. Compare:

7. a. Can the peace treaty be signed now?
   b.?May the peace treaty be signed now?

The differences of interpretation and acceptability in (6-7) seem to fit with the subjective/objective opposition. Given that the dialog and not the monolog is the normal linguistic situation, it would seem odd for a speaker to ask whether a proposition is true in a world compatible with his own current knowledge, as in (7b). And if we see the use of may, i.e., of

subjective modality, as a weak conjecture, a leaving open of a possibility, it seems reasonable that it cannot be negated. One might say that a weak conjecture is already negative in a sense; it means that the speaker doesn't know for sure. What would it mean to negate it further? The subjective possibility modals in both Japanese and Korean are constructions whose literal meaning is that the speaker isn't able to know, i.e., that the speaker is merely guessing about the possible truth of a proposition. Sentences (8) and (9) are examples.[1]

8. (Japanese) John wa hon o yomu ka - mo - si - re - nai
SM book OM read QM-even-know-capability-neg.
'John may read the book.'

9. (Korean) John - 1 o - 1 - ci - to - molɨ - n - ta
SM come-QM-even-can't-know-TM-MM
'John may come.'

In Malay the subjective modal mungkin (a sentential adverb) contrasts with the objective modal boleh in about the same way as may contrasts with can in English. Although mungkin, unlike may, can be negated (this might be explained by its being an adverb), it cannot be used in information-seeking questions, whereas boleh can.

10. ?Mungkin Ali sakit?
possibly sick
?'May Ali be sick?'

11. Boleh Ali sakit?
possibly
'Can Ali be sick?'

In Hebrew the sentential adverb of possibility uli contrasts with the adverbs yitaxen and efsar in that both external and internal negation are allowed for the last two, whereas only internal negation is possible with uli.

12. uli Dani lo xole
possibly neg. sick
'Dani may not be sick.'

13. *lo uli Dani xole

14. lo {yitaxen / efsar} se Dani xole
possible
'Dani can't be sick.'

Hebrew also has a stronger possibility modal (probability), kanire, which literally means 'as far as I can see" and thus is clearly subjective. Again, external negation is impossible.

15. *lo kanire se Dani xole

In Alsatian subjective possibility is expressed with därfə, which, like may, is also a modal of permission. To indicate the possibility of a proposition the subjunctive is used (c.f. might) and, in contrast to the objective modal kenə, it cannot be negated or used in questions.

16. a. ər kent drisiš jo·r alt sin
could 30 years old be
'He could be 30 years old.'

b. ər därft drisiš jo·r ɒlt sɪn
might
'He might be 30 years old.'
c. kent ər drisiš jo·r ɒlt sɪn
'Could he be 30 years old?'
d.*därft ər drisiš jo·r ɒlt sɪn
?'Might he be 30 years old?'
e. ər kent nɪt drisiš jo·r ɒlt sɪn
'He couldn't be 30 years old.'
f.*ər därft nɪt drisiš jo·r ɒlt sɪn

Three of the nine languages included in this study, Turkish, Hungarian, and Spanish, did not appear to have a subjective possibility modal, although they did have subjective necessity modals. In Spanish there is a phrase built upon the possibility modal poder which might be interpreted as subjective, since, unlike the simple modal auxiliary and a similar periphrastic expression, it cannot be negated. The phrase, puede que, occurs in (17a-b).

17. a. Puede que él esté mintiendo.
Can that he is lying
'He may be lying.'
b.*No puede que él esté mintiendo.
c. El no puede estar mintiendo.
'He can't be lying.'
d. No puede ser que él esté mintiendo.
be
'It can't be that he is lying.'

If may is the subjective epistemic modal on the possibility end of the scale in English, must is its counterpart on the necessity end. Upon stepping out onto wet pavement, one might utter sentence (18a).

18. a. It must have rained.
b. It has to have rained.

The speaker has seen the evidence; there is nothing in his current knowledge base to conflict with the proposition that it has rained; in fact, he can't think of any other good explanation. In all possible worlds compatible with his current knowledge it has rained. (18b) seems to be a stronger statement. Suppose the speaker's companion suggests another hypothesis: perhaps city workers have been washing the street. But suppose the speaker can prove that this hypothesis and all others are false. He might utter (18b). In all possible worlds compatible with the evidence it has rained. It can't have been otherwise. Have to is objective.

Let us apply the negation and question tests to (18 a-b).

19. a. It must not have rained.
b. It doesn't have to have rained.
c.?Must it have rained?
d. Does it have to have rained?

Must works like may, and have to like can.

The intuitive feeling that (4b) (subjective) is stronger that (4a), but that (18b) (objective) is stronger than (18a) is easily explained. Imagine the set of possible worlds compatible with the speaker's knowledge

enclosed by a circle which is inside a larger circle containing all relevant possible worlds. Since a proposition is possible if it is true in at least one possible world, subjective possibility entails objective possibility: a proposition inside the small circle is necessarily inside the larger one. On the other hand, a proposition is necessary only if it is true in all possible worlds compatible with the base set. Therefore, a proposition could be true in all possible worlds bounded by the smaller circle (must) without being true in all possible worlds in the larger one (have to).

Two further remarks should be made concerning must and have to. First, the second of these is not, strictly speaking, a member of the closed class of English modal auxiliaries; it requires do-support and can be used in the same verb phrase with a true modal. Second, epistemic have to is much less commonly used than must. These two facts suggest the possibility that epistemic necessity is more likely to be expressed with a subjective modal that with a stronger objective one. Evidence from other languages lends support to this hypothesis.

In Turkish, for example, there are at least four epistemic necessity modals, and none of them can be negated. All are unusual in information-seeking questions. Two of these modals, -mElI and -DIr, are verb affixes, and two are adjectives, lazım and gerek.

20. a. John bu saat - te ev - de ol - ma - malı
this hour - at home - at be -neg.
b. John bu saat - te ev - de deyil - dir
neg.
c. John bu saat - te ev - de ol - ma - ma - sı lazım
be neg. ing poss.
d. John bu saat - te ev - de ol - ma - sa gerek
be neg. opt.
'John must not be at home at this hour."

The syntactic means are available for the external negation of all these modals with the exception of malı. In fact, the two adjectives can be negated when they express obligation. However, none of the four can be negated when used epistemically.

21. *John bu saat-te ev-de { ol-malı-ma / ol-ma-si lazım deyil / ol-sa gerek deyil / dir deyil }

All epistemic necessity modals in Turkish seem to be subjective.

The Hebrew necessity modal with an epistemic meaning is clearly subjective and cannot be negated.

22. Dani betax lo oved.
neg. work
'According to my knowledge, Dani is not working.'
'Dani must not be working.'

23.*Dani lo betax oved.

The Alsatian modal mu·n, like its cognate must, is used in both an epistemic and a root sense. Unlike must, however, the scope of negation (internal vs. external) is ambiguous in the root readings. This ambiguity disappears in epistemic readings, where, as with must, negation is always internal.

24. dis mə·s nɪt vo·r sɪn
this must neg. true be
'This must not be true.'

Similarly, Spanish deber is used in a root as well as an epistemic sense. When epistemic it is not used in questions, and negation is internal only.

25. a. El debe estar loco.
he must be crazy
b.*Debe el estar loco?
c. El no debe estar loco.
'He must not be crazy.'

When the Malay necessity modal mĕsti is negated it loses its epistemic meaning and is given a root interpretation. Notice that in (26a) the negative word occurs before the main verb, providing internal negation. In (26b) we have external negation, the modal itself being negated.

26. a. John mĕsti tidak ada di rumah
neg. exist at home
'John must not be at home.'
b. John tidak mĕsti ada di rumah
'John is not obligated to be at home.'

In Hungarian the subjective/objective contrast is made by using the single modal adverb, bisztos. It is subjective when used as a predicate modifier and cannot be negated or used in questions; it is objective when used as a sentential adverb with the complementizer hogy.

27. a. Bisztos esett.
rained
'It must have rained.'
b. Bisztos, hogy esett.
'It is certain that it rained.'
c. Bisztos nem esett.
neg.
'It must not have rained.'
d.*Nem bisztos esett.
e. Nem bisztos, hogy esett.
'It is not certain that it rained.'
f.*Bisztos esett?
g. Bisztos, hogy esett?
'Is it certain that it rained?'

Sufficient evidence has not yet been collected to allow for a claim that all languages provide for a subjective/objective contrast in their epistemic modal system. It is difficult at this stage even to say what we mean by a modal system or to set up criteria by which to classify expressions as genuine modals as opposed to periphrastic expressions with modal meanings. However, the data collected in this paper indicate that there is some basis for hypothesizing the subjective modal as a universal linguistic category. Obviously there is a great need for more data, more clearly defined categories, and a more refined general theory of modality.

1. All the sentences from languages other than English came from presentations made by speakers of those languages (mostly native) in a seminar on modality, given by Professor Choon-kyu Oh at the University of Kansas during the Spring Semester of 1979.

MODALITY IN ALSATIAN

Marguerite A. Hessini

Abstract: This descriptive study focuses on the special verbal category of Alsatian modal auxiliaries with distinct syntactic characteristics. They include: [kenə] (can), [mesdə] (would like to), [velə] (want to), [därfə] (be allowed to), [solə] (ought to/must), and [mɪ:n] (must). These modals specify the speaker's point of view in regard to the reported event. They are able to express several levels of probability regarding the event's potential fulfillment. They form two subcategories depending on the presence or absence of an external source of authority imposed on the agent. The deontic and epistemic meanings of Alsatian modals support Horn's (1972) hypothesis that the latter two meanings are semantically related.

Introduction

The present study on modality pertains to Alsatian, a German dialect of Alemannic origin, spoken in the province of Alsace in Eastern France. Alsatian comprises a variety of closely related, mutually intelligible dialects. My corpus is limited to examples of the dialect variety spoken in Strasbourg, the provincial capital, of which I am a native.

As Alsatian is basically a spoken dialect whose closest written expression is standard German, but which has no standardized written form of its own, I am using a broad phonetic transcription for my examples. For clarification, a few observations seem appropriate. Alsatian stops are voiceless, lenis in word initial and medial positions, fortis in word final position. I will represent the former by [b, d, g] and the latter by [p, t, k]. The approximant [r] is a uvular trill or a uvular fricative, the latter adjacent to a voiceless consonant or

Kansas Working Papers in Linguistics, Vol. 5, No. 1, pp. 21 - 50

word-finally after a vowel. I am using the symbol [ʉ] to designate a front rounded vowel that is lower than [ü] but higher than [ö].

Alsatian has incorporated numerous French borrowings in its lexicon, but the syntactic structures closely parallel those of standard German.

The Verbal Category of Modals

Function. Modality may be conceived of as a broad notion including modal adverbial expressions (it is possible, it is probable...), mood, modal infinitives (I have to...), and modal auxiliaries (Brinkman, 1962). The present study focuses on the special verbal category of modal auxiliaries whose function is to "express a relation of the event to reality" (Bouma, 1973). This may be expressed by the formula:

S → X M Y

in which X plus Y specify the event, and M stands for a finite modal which specifies the attitude of the speaker in regard to the reported event, or what Brinkman (1962) labels more broadly as "Satzintention".

Alsatian Modals. Alsatian has six modals which form a distinct verbal category with specific syntactic characteristics. Their broad basic meanings within the domain of social customs may be described as follows:

[kenə]	:	ability, opportunity
*[mešdə]	:	inclination, desire
[velə]	:	intent, want
[därfə]	:	permission, right
[solə]	:	duty, obligation
[mɪ:n]	:	compulsion, absolute obligation

*[mešdə] is used only in the subjunctive (see chart p.49).

Syntactic Characteristics. Modals in Alsatian are used with a dependent verb which is in the infinitive, and thus they function like auxiliaries.

(1a) mr mɪ:n bli:və
(1pl=sbj must stay)
'we must stay'

(1b) mr sɪn gəblɪvə
(1pl=sbj be=aux stay=pp
'we have stayed=we stayed'

(2a) dü kɒnš räšt hɒn
(2sg=sbj can right have)
'you (sg. informal) may be right'

(2b) dü heš räšt ghet
(2sg=sbj have=aux right have=PP)
'you were right=you have been right'

Under certain conditions the dependent infinitive may be omitted from modal expressions (i) when the goal is explicitly stated in the sentence:

(3) iš mɐs ha:m (ge:n)
(1sg=sbj must home (go))
'I must go home'

(4) də šorš kɒn elsäsiš (redə)
(the Georgə can Alsatian (speak))
'George knows (how to speak) Alsatian'

(ii) when the context would make the infinitive repetitious or unnecessary:

(5) A: mɐ:š šun ge:n?
(must=you (sg. informal) already go)
'do you have to go already?'

B: jɒ, iš mɐ:s
(yes, 1sg=sbj must)
'yes, I must go'

(iii) when the idea of 'to do' is present:

(6a) mr kenə s mɒxə 'we can do it'
(1pl=sbj can 3sg=neut=DO do)

(6b) mr kenə(s) 'we can do it'

A dependent infinitive used with a modal verb can never be preceded by [tsə] 'to' which is customary with most other verbs:[1]

(7a) ər mešt hilə
(3=masc=sg=sbj would-like-to cry)
'he would like to cry'

(7b) ər fɒŋt-ɒn tsə hilə
(3=masc=sg=sbj starts to cry)
'he starts to cry=he is starting to cry'

(8a) ər kent gšejt sɪn
(3=masc=sg=sbj can=pres. subj intelligent be)
'he might be intelligent'

(8b) ər bɪlt-siš-in gšejt tsə sɪn
(3=masc=sg=sbj imagines-himself intelligent to be)
'he believes (pictures himself) to be intelligent'

2. Modals do not take the 3rd person singular marker [-t] in the present indicative, but do take the 2nd person singular marker [-s]:

(9a)	iš sol lä:və	'I am supposed to live'
(9b)	dü solš lä:və	'you are ...'
(9c)	ər sol lä:və	'he...'
(10a)	iš lä:p	'I live=I am living'
(10b)	dü lä:pš	'you...'
(10c)	ər lä:pt	'he...'

3. Modals remain single in the present subjunctive like the auxiliaries [hɒn] 'to have', [sɪn] 'to be' and [dɷ:n] 'to do' (the latter only when used as an auxiliary). Other verbs usually form the subjunctive with the present subjunctive of the verb [dɷ:n] 'to do', which then functions as an auxiliary:[2]

	modals		subjunctive:	
(11a)	kenə	'can'	ər kent	'he could'
(11b)	velə	'want'	ər vot	'he would like to'

auxiliaries:

(12a)	hɒn	'have'	ər hät	'he would have'
(12b)	sɪn	'be'	ər vä:r	'he would be'

other verbs

[dät] (pres. subj. of [dɷ:n] + inf. of the verb:

(13a)	ge:n	'go'	ər dät ge:n	'he would go'
(13b)	gla:və	'believe'	ər dät s gla:və	'he would believe it'
(13c)	dɷ:n	'do'	ər dät s dɷ:n	'he would do it'

4. A double infinitive construction is found in a compound tense[3] when a modal verb is used with a complementary infinitive. The modal verb functions, then, as an alternate past participle identical in form to the infinitive. This is clearly illustrated when the main verb is omitted, but understood, and the past participle of the modal auxiliary is used:

(14a) iš hɒps mɒxə kenə
(1=sg=sbj have=aux do can)
'I was able to do it'

(14b) iš hɒps gəkent
(1=sg=sbj have=aux can=pp)
'I was able to do it'

(15a) mr hɒn furt ge:n mɪ:n
(1=pl=sbj have=aux away go must)
'We had to leave'

(15b) mr hɒn furt gəmɪ:nt
(1=pl=sbj have=aux away must=pp)
'We had to leave'

The double infinitive occurs only when the complementary infinitive is expressed, whereas the alternate past participle is used only when the complementary infinitive is implied.[4]

The future tense with a modal verb also yields a double infinitive construction:

(16a) əs vurt kumə kenə
(3=neut=sg=sbj fut. aux come can)
'she (informal) will (probably) be able to come'

(16b) əs vurt kumə
'she will (probably) come'

The preceding sentences (1a through 16b) clearly indicate that the modals in Alsatian are a separate verbal category as illustrated by their distinct syntactic characteristics.

The Verb [brüšə] Used As A Modal. There is an additional verb [brüšə] 'need to' which is usually substituted for [mɪ:n] 'must' in the negative, and thus functions as a modal within that limited context. However, it does not share the characteristics of the other modals which form a distinct verbal category. [brüšə] takes a [-t] in the 3rd person singular in the present indicative, and requires [tsə] when preceding an infinitive:

(17a) əs brüšt nɪt tsə hilə
(3=neut=sg=sbj need not to cry)
'she (informal) must not cry'
'she doesn't have to cry'

[brüšə] is also used as a non-modal:

(17b) əs brüšt nə nɪt
'she doesn't need him'

Semantic Characteristics

Modals Involving An External Source of Authority. The modals in Alsatian may be specified as relative to the speaker's point of view and to whether or not the agent in a sentence is submitted to some exterior influence with which the speaker concurs. Thus [mɪ:n], [solə], and [därfə] are modals that involve a source external to the agent that affects the event.

(18a) dü därfš ro:də
(2=sg=sbj may guess)
'you may guess'

Someone gives the permission to the agent; if it is not the speaker, then the latter concurs:

(18b) dü solš ro:də
'you should guess' (the suggestion implied in Alsatian is much stronger than that of English 'should')

Someone strongly suggests the obligation to the agent; if it is not the speaker, then the latter concurs.

(18c) dü mø:š ro:də
'you must guess'

Someone absolutely compels the agent. If it is not the speaker, then the latter concurs with him.

Modals Involving an Internal Source of Authority.

1. In the case of the modals [kenə], [mešdə], [velə], the agent is the carrier of the ability, the desire, the will; the source of the event lies with the agent, and the speaker confirms it.

(19a) dü kanš gla:və
'you can believe'

The agent has the ability to believe, and the speaker confirms this.

(19b) dü meštš gla:və
'you would like to believe'

The agent has the desire to believe, and the speaker confirms this.

(19c) dü vɪt gla:və
'you want to believe'

The agent has the will to believe, and the speaker confirms this.

2. It seems that in the case of [kenə], [meŝdə], and [velə], there is a clear tie between the subject and the predicate. This is further underscored by the fact that, on the syntactic level, only these modals can take a real object, whereas [därfə], [solə], and [mɪ:n], which involve an external authority, cannot.

(20) iš kɒn elsäsiš
'I know Alsatian - I can speak Alsatian'

(21) iš mešt nə nɪt
'I don't like to have him - I wouldn't want him'

(22) iš vɪl ken šnägə
'I don't want any snails'

Range of Probability Expressed by Alsatian Modals. The degree of probability regarding the potential fulfillment of an event is another dimension expressed by Alsatian modals. The two subcategories mentioned earlier each have a range of three levels (see 18a, b, c and 19a, b, c), from great uncertainty to strong probability, from mere suggestion to strong compulsion. The use of the subjunctive further allows expansion of the range of varying degrees of probability:

(23) ər mɯs švä:r šɒfə
(mɪ:n:pres.ind.)
'he must work hard'

(24) ər sol švä:r šɒfə
(solə:pres.ind.)
'he must work hard=he is expected to work hard'

(25) ər sot švä:r šɒfə
(solə:pres.subj.)
'he is supposed to work hard=he should...'

(26) ər mɪst švä:r šɒfə
(mɪ:n:pres.subj.)
'he would have to work hard'

In (23) the agent is under absolute obligation to comply. In (24) the agent is under strong obligation to comply, but has a choice available. In (25) the agent is under strong obligation to comply, but according to the speaker's point of view, most likely doesn't or won't comply, either by choosing not to or by being unable to. In (26) the agent is under a strong hypothetical obligation to comply, but according to the speaker's point of view, he doesn't, and the chances are extremely slight that he will do so in the future. As illustrated in (25) and (26), the subjunctive carries a negative connotation not conveyed by the indicative.

Negation of Modals

Negation Expressed Through Standard Oppositions.

1. In Alsatian the negation of modals may be expressed through the following oppositions:

a. mɪ:n : it is necessary that...

□ furt ge:n (š) ≡ ~◇~ furt ge:n (š)

(š) = šorš (George)

(27) də-šorš mɛ:s furt ge:n
(the-George must away go)
'George must leave'

b. nɪt kenə/nɪt därfə : it is not possible that.. ≡ it is necessary that...not...

~ ◇ ≡ □~ furt ge:n (š)

(28a) də-šorš kɒn nɪt furt ge:n
(can not)
'George may not leave' (=it is not the case that George may leave)

(28b) də-šorš därf nɪt furt ge:n
(is not permitted to)
'George may not leave' (= it is necessary that George not leave'

c. kenə/därfə : it is possible that ...≡it is not necessary that... not...

◇ furt ge:n (š) ≡ ~□~ furt ge:n (š)

(29a) də-šorš kɒn furt ge:n

(29b) də-šorš därf furt ge:n
'George may leave'

d. nɪt brüšə : it is not necessary that... ≡it is possible that... not...

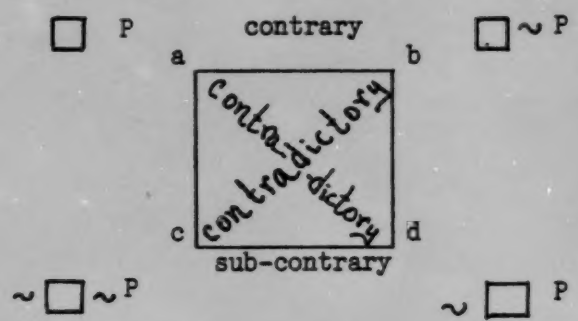
◇~ ≡ ~□ furt ge:n (š)

(30) də-šorš brüšt nɪt furt tsə ge:n
'George doesn't have to leave'

2. These basic relationships between the modals in Alsatian may be illustrated schematically as follows, taking the "logisches Quadrat" (square of opposition) cited by Blumenthal (1976) as a model, with the following root meanings of the modals:

A - obligatorisch 'necessary'
E - verboten 'forbidden'
I - erlaubt 'permitted'
O - fakultativ 'optional'

Referring to the Alsatian examples (27 to 30) given under sections a, b, c, and d, we obtain the following:



Alternate Forms.

1. The use of the negative as pertaining to Alsatian modals needs to be specified further. The negation of [mɪ:n] (a): [nɪt mɪ:n] may replace [nɪt brüšə] (d) as illustrated below.

(31a) ər mʊ:s nɪt švä:r špfə

(31b) ər brüšt nɪt švä:r tsə špfə
(3=masc=sg=sbj must not hard work)
need to
'he doesn't have to work hard'

(32a) dü mɪ:štš nɪt brɪ:lə

(32b) dü brištš nɪt tsəbrɪ:lə
(2=sg=sbj must=pres.subj not shout)
(need=pres.subj to)
'you wouldn't have to shout'

(33a) si mɪ:n nɪt ɪmər šnägə hɒn

(33b) si brüšə nɪt ɪmər šnägə tsə hɒn
(3=pl=sbj must not always snails have
(need to)
'it is not necessary, that they always have snails (for food)'

(34a) um nɪt šɒfə tsəmɪ:n, het ər siš grɒŋk gšdelt

(34b) um nɪt šɒfə tsə brüšə, het ər siš grɒŋk gšdelt
(for not work to must, has he himself sick acted)
'in order not to have to work, he acted sick'

In all of the preceding examples, the negation refers to the modal, and thus [mø:s nɪt] p has the meaning of $\sim\Box$ p.

2. There are other instances, when [nɪt mɪ:n] may replace [nɪt därfə] (b) or [nɪt kenə] (b):

(35a) dü mø:s dɪs nɪt mɒxə, so eps mɒxt mr nɪt
(2=sg=sbj must this not do, such something does not one)
'you must not do that, one doesn't do such a thing'

(35b) dü därfš dɪs nɪt mɒxə, so eps mɒxt mr nɪt

(35c) dü kanš dɪs nɪt mɒxə, so eps mɒxt mr nɪt
'you may not do that, one doesn't do such a thing'

(36a) dɪs mø:s nɪt vo:r sɪn
(this must not not true be)
'this is certainly not true=this is most likely not true'

(36b) dɪs kɒn nɪt vo:r sɪn

(36c) dɪs därf nɪt vo:r sɪn
'this cannot be true'

(37a) ər mø:s nɪt grɒnk sɪn
(3=masc=sg=sbj must not sick be)
'it is imperative that he not be sick'
(a second reading would be: 'he is probably sick', but 37b and 37c would not paraphrase that meaning)

(37b) ər kɒn nɪt grɒnk sɪn

(37c) ər därf nɪt grɒnk sɪn
'it is necessary that he not be sick'

(38a) dü mø:š nɪt drüriš sɪn
(2=sg=sbj must not sad be)
'you must not be sad'

(38b) dü kanš nɪt drüriš sɪn

(38c) dü därfš nɪt drüriš sɪn
'it is necessary that you not be sad'

In all of these cases the negation seems to refer to the predicate rather than to the modal, and may be schematized as follows: □ ~ P : it is necessary that... not p. As illustrated above, each sentence containing [nɪt mɪ:n] may be paraphrased using (b) [nɪt kenə]/[nɪt därfə], the two latter modals implying a lesser degree of compulsion than when [nɪt mɪ:n] is used. Furthermore, whenever the subject is 2nd. pers. singular [dü], the sentence has the character of a negative imperative rather than of a statement. In that case it implies from the speaker's point of view that the subject is in a position to comply with the prohibition, which would explain why this type of sentence, in which [nɪt mɪ:n] may optionally replace [nɪt kenə]/ [nɪt därfə], is only used in the present tense and never in a question form:

(39) *mʊ:s du nɪt drüriš sɪn?

3. The use of alternate negative forms is restricted, however, as there are instances in which only [nɪt mɪ:n] may be used, and others when only [nɪt brüšə] is appropriate:

(40) vän iš nɪt vɒ:rdə hät mɪ:n, vär iš šun lɒŋ tha:m
(if I not wait have=pres.subj. must, be=pres.subj. I already long at-home)
'if I hadn't been compelled to wait, I would have been home long ago'

(41) mʊ:s nɪt ɒm dreje vɪdər šɒfə?
(must=you not at 3 again work)
'don't you have to work again at three?'

Examples (40) and (41) imply a strong obligation imposed on the subject by an external authority. Examples (42) and (43) on the contrary, imply the absence of an obligation which has been assumed by the subject:

(42) iš hɒp də gɒntsə dɒ: niks mɒxə brüšə
(1=sg=sbj have=aux the whole day nothing do need)
'I didn't have to do anything the whole day long - I needn't do anything...'

(43) dü hätš ajədliš niks sa:və brüšə
(2=sg=sbj have=pres.subj. strictly-speaking nothing say need)
'Actually you didn't have to say anything'

It may perhaps be possible to conclude here that when [nɪt mɪ:n] is used exclusively, there is a real obligation that exists and that is external to the agent, whereas when [nɪt brüšə] is used exclusively, the obligation is merely assumed by the agent.

Negation and Modal Subcategories. The division between the two categories of modals, those that depend on an outside source of authority ([därfə], [solə], [mɪ:n]), and those that don't ([kenə], [mešdə], [velə]), remains the same in the negative:

(44) iš hɒp ken huŋər, iš kɒn nox niks äsə
(1=sg=sbj have no hunger, 1=sg=sbj can yet nothing eat)
'I am not hungry, I can't eat anything yet'

(45) iš hɒp ken huŋər, iš meš̌t nox niks äsə
'..., I would like not to eat anything yet'

(46) iš hɒp ken huŋər, iš vɪl nox niks äsə
'..., I don't want to eat anything yet'

(47) iš hɒp ken huŋər, iš darf nox niks äsə
'..., I may not yet eat anything'

(48) iš hɒp ken huŋər, iš sol nox niks äsə
'..., I (strongly) should not yet eat anything'

(49) iš hɒp ken huŋər, iš mɐs nox niks äsə
'..., I must not eat anything yet'

Examples (47), (48), and (49) indicate a reference to an external authority, which is not the case in examples (44), (45), and (46).

Negation Expressed Through Adverbial Expressions. Negation may not be expressed solely through the negation of a modal, but may be conveyed through an adverbial expression, which may be either a clear negation such as [nɪ:] 'never', [unme:jliš] 'impossible', or a limiting expression such as [küm] 'hardly', [numə] 'only', [s ɪš küm me:jliš] 'it is hardly possible', [unvoršinliš] 'unprobable', [venikšdəns] 'at least', [hekšdəns] 'at the most' ...

(50a) dü mɐš venikšdəns sɪvətsiš frɒŋgə do dəfɪr bətsɒ:lə
'you must at-least 70 francs there for-it pay)
'you must pay at least 70F for that'

(50b) *dü brüš venikšdəns sɪvətsiš frɒŋgə do dəfɪr bətsɒ:lə

(51a) dü mɐš hekšdəns sɪvətsiš frɒŋgə do dəfɪr bətsɒ:lə
'you must pay at the most 70F for that'

(51b) dü brüš hekšdəns sɪvətsiš frɒŋgə do dəfɪr bətsɒ:lə
'you must (need) pay at the most 70F for that'

The implicit negative in [hekšdəns] 'not more than' has a wider scope than the modals, while that of [venikšdəns] has a narrower scope. (51a) and (51b) may be paraphrased as follows:

(51c) dü brüš nɪt me: ɒls sɪvətsiš frɒŋgə do dəfɪr bətsɪ:l
'you must not pay more than 70f for that'

and translated as 'it is not necessary for you to pay more than 70f for that' or 'you must pay at the most 70F for that'. (50a) may be paraphrased as follows:

(50c) dü müš me: ɒls sɪvətsiš frɒŋgə do dəfɪr bətsɒ:lə
'you must pay more than 70F for that'

and translated as 'it is necessary for you not to pay any less than 70F' or 'you must pay no less than 70F'. [hekšdəns] 'at the most' $x(x \geqslant)$ marks the maximum, but [venikšdəns] 'at the last' indicates that $x(x \leqslant)$ is minimum which in Alsatian is incompatible with [brušə] 'need' (50b), which in this context may be used to express sufficiency but not necessity.

[venikšdəns] 'at least' (50b):
* $\neg <$ \$70
* $\geqslant$ \$70

[hekšdəns] 'at the most' - [nɪt me: ɒls] 'not more than' (51a and 51b):
$\neg >$ \$70
$\leqslant$ \$70

External and Internal Negation. External and internal negation are possible in Alsatian with possibility expressions such as [s kɒn sɪn] 'it is possible', and [s ɪš me:jliš] 'it is possible':

(52a) s kɒn sɪn, dɒs s-gredəl grɒnk ɪš
(it can be, that the-Gredel sick is)
'it may be that Gredel is sick'

$\Diamond$ grɒŋk (G) $\equiv \sim\Box\sim$ grɒŋk (G)

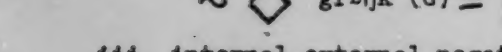
i. internal negation:

(52b) s kɒn sɪn, dɒs s-gredəl nɪt grɒnk ɪš
'it is possible that Gredel is not sick'

$\Diamond\sim$ grɒŋk (G) $\equiv \sim \Box$ grɒŋk (G)

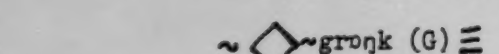
ii. external negation:

(52c) s kɒn nɪt sɪn, dɒs s-gredəl grɒŋk ɪš
'it is not possible, that Gredel be sick'



iii. internal-external negation:

(52d) s kɒn nɪt sɪn, dɒs s-gredəl nɪt grɒŋk ɪš
'it is not possible, that Gredel not be sick'



(53a) s ɪš me:jliš dɒs əs siš frajt ɪn ɒndəra umštändə tsə sɪn
(it is possible that she (informal) herself be-happy in other circumstances to be (=be with child))
'it is possible that she is happy to be pregnant'

(53b) s ɪš me:jliš dɒs əs siš nɪt frajt ɪn ndəra umštändə tsə sɪn
'it is possible that she is not happy to be pregnant'

(53c) s ɪš nɪt me:jliš das əs siš frajt ɪn ɒndəra umštändə tsə sɪn
'it is not possible that she is happy to be pregnant'

(53d) s ɪš nɪt me:jliš dɒs əs siš nɪt frajt in ɒndəra umštändə tsə sɪn
'it isn't possible that she is not happy to be pregnant'

External and internal negation are possible also with an expression such as [s mø:s sɪn] 'it must be the case,' provided that the negative form is either [s kɒn nɪt sɪn] or [ˢ därf nɪt sɪn] 'it can/may not be' within the context below:

(54a) s mø:s sɪn, dɒs s majdələ drüriš ɪš
(it must be, that the girl-dim sad is)
'it must be the case that the little girl is sad'

(54b) s mø:s sɪn, dɒs s majdələ nɪt drüriš ɪš
'it must be the case, that the little girl is not sad'

(54c) s kɒn nɪt sɪn, dɒs s majdələ drüriš ɪš
'it is impossible that the little girl is sad'

(54d) s kɒn nɪt sɪn, dɒs s majdələ nɪt drüriš ɪš
'it is impossible, that the little girl not be sad'
(= she must be sad)

Epistemic and Deontic Meanings of Alsatian Modals

Relationship Between Root Meaning and Epistemic Meaning. This section pertains only to the modals [därfə] 'be permitted to', [solə] 'should', [mɪ:n] 'must', which imply an external source of authority. Modals in Alsatian support Horn's (1972) hypothesis that there is a systematic connection between the root meaning and the epistemic meaning of modals, the latter being based on the speaker's knowledge, and that the two meanings are related semantic concepts. While the Alsatian syntactic modals may be ambiguous between epistemic and root meanings, they are so in a systematic way as the following sentences illustrate:

(55a) dü därfťš rä:št hɒn[5]
(you may=pres. subj right have)
'you may be right'

(55b) dü därfš ə glas hɒn
(you may an ice-cream have)
'you may have an ice-cream'

(56a) sini švešdər sol še:n sɪn, hɒv iš ghe:rt
(his sister must pretty be, have I heard)
'his sister must/is supposed to be pretty, I've heard'

(56b) ə hotäs sol še:n sɪn, um ɪn därə üšteluŋ ɒrvajt tsə grejə
(a hostess must pretty be, for in that fair work to get)
'in order to get a job at that fair, a hostess has to be pretty'

(57a) d no:xbərə mɐs ɪrə mɒn fərhawə, mr he:rt nə brɪ:lə
(the neighbor (fem.) must her husband beatup, one hears him yell)
'the neighbor must be beating up her husband, one hears him yell'

(57b) d no:xbərə mɐs ɪrə mɒn fərhawə, šunš däd ər nɪt ufšte:n
(the neighbor (fem.) must her husband beat-up, otherwise, aux-do-pres. subj he not get-up)
'the neighbor must beat up her husband, otherwise he wouldn't get up'

[därfə] in (55a) indicates possibility, in (55b) permission. [solə] in (56a) indicates probability/assumption, in (56b) weak requirement/obligation (there may be an exception to the rule regarding physical appearance when hiring a hostess for the fair). [mɪ:n] in (57a) indicates certainty, in (57b) strong obligation/requirement. Thus these modals are ambiguous between epistemic and root meaning, as [därfə] may fluctuate between the meaning of possibility and that of permission, [solə] between probability and obligation, and [mɪ:n] between certainty and requirement. Yet there

is consistency in that possibility is matched by permission, and probability and certainty are matched by weak or strong obligation.

Concepts of Modality Occurring in Alsatian. The various notions of modality occurring in Alsatian are conveyed through the following modals.

1. Ability. Only [kenə] in its root meaning is used to express either physical or mental ability.

(58a) dr-šorš kɒn-s mɒxə (physical)
(the-George can-it do)
'George can do it'

(58b) dr-šorš kɒn-s nɪt mɒxə (physical)
(not)
'George can't do it'

(58c) kɒn-s dr-šorš (nɪt) mɒxə? (physical)
'can ('t) George do it?

(59) s-gredəl kᵖn dits (mental)
(the-Gredel can German)
'Marguerite knows German'

(60) (fut): ɪm ə-jo:r vurd ər gʉ:t äŋliš kenə (mental)
(in-a a-year will he well English know)
'Within a year he will know English well'
(certainly or probably)

(61) (past): vi iš gla:n bɪn gsɪn, hɒv iš elsäsiš
{gəkent / kenə redə} (mental)
(when I small have been, have I Alsatian known/know speak)
'when I was small, I knew (how to speak) Alsatian'

(62) (pres. subj): kentš dü so eps lɪpfə? (physical)
(can-pres. subj you such something lift-up)
'could you lift that?

(63) (pres. subj): dü kentš mr ɒm gšɪr hälfə (physical)
(you can-pres. subj me at-the dishes help)
'you could help me with the dishes'

(64) (past subj): hätš dü so eps gla:və kenə? (mental)
(have-pres. subj-aux you such something believe can)
'could you have believed that?'

When the subjunctive is used, there is either an indication of serious doubt from the speaker's point of view ((62, 64): 'I'm not so sure...') or a degree of politeness (63) not indicated by the indicative.[6]

2. Permission. Both [kenə] and [därfə] in their root meaning may be used, with [kenə] paraphrasing the permission sense of [därfə].

(65) mr {därfə / kenə} ge:n
'we are permitted to go'

(66) {därfš / kɒns} (nɪt) mɪt kumə?
'are you (not) permitted to come along?'

(67) (fut): mr värə nɪt furt {därfə / kenə} bli:və
(we fut. aux not away may stay)
'we won't be allowed to stay away'

(68) (past): mr hɒn nɪt fül därfə sɪn
(we have not lazy be-permitted be)
'we were not allowed to be lazy'

(69) (pres. subj): {därfš / kents} hašiš rawxə?
(may=pres. subj=you grass smoke)
'might you smoke grass?' (more doubt involved than if indicative were used)

(70) (past subj): hät də güšt štɪgə därfə le:rə?
(have=pres. subj the Gustave embroider be-permitted learn)
'could Gustave have been permitted to learn to embroider'

As in the examples referring to ability, the use of the subjunctive indicates a certain amount of doubt from the speaker's point of view, or some polite suggestion.

3. Obligation. Both [mɪ:n] (absolute obligation/requirement) and [solə] (obligation, but the agent has a choice available as to whether or not to comply) are used with [nɪt brüsə] and [nɪt därfə] as possible negatives as indicated in the Negation section. The root meaning of [solə] corresponds roughly to English 'should' as defined by Boyd and Thorn (1969:66), stating "that somebody or something makes a demand". In Alsatian that demand seems to be stronger than that conveyed by 'should'.

(71a) mr mɪ:n ɒm a:nsə dort sɪn
(we must at=the one=o'clock there be)
'we must be there at one'

Both internal and external negation may apply.

(71b) mr mɪ:n ɒm a:nsə nɪt dort sɪn

(71c) mr mɪ:n nɪt ɒm a:nsə dort sɪn
'we must not be there at one'

[solə] may be substituted for [mɪ:n] in the above sentences, indicating then a lesser degree of requirement. (The agent may possibly either be unable or unwilling to comply).

In their root meaning [mɪ:n] and [solə] may be used in all tenses and also in the question form.

(72a) (past) heš šva:r špfə mɪ:n? 'did you have to work hard'
(72b) heš šva:r mɪ:n špfə?
(have-you hard work must/must work)

The flexible word order of [špfə] and [mɪ:n] allows one to emphasize either the obligation in (72a) or the work in (72b).

(73) (fut) iš wur dɪs färtiš mɒxə mɪ:n
(I fut-aux this finish do must)
'I will have to finish this'

It seems that the negation of the root meaning of [mɪ:n] and [solə] is done respectively with [nɪt brüšə] and [nɪt därfə] unless the negations [nɪt mɪ:n] and [nɪt solə] are used.

(74a) dü mə:š šlo:fə
'you must sleep'

(74b) dü bruš nɪt tse šlo:fə
'you don't have to sleep'

(75a) mr solə unsri ma:nuŋ sa:və
(we must our opinion say)
'we are supposed to tell our opinion'

(75b) mr därfə unsri ma:nuŋ nɪt sa:və

(75c) mr därfə nɪt unsri ma:nuŋ sa:və
'we must not tell our opinion'

The use of the subjunctive again conveys a lesser degree of obligation, and involves a certain amount of doubt or uncertainty.

(76) (pres. subj):iš mɪ:st miš drumbɪ:rə, vän iš nɪt špfə mɪ:st
(I must=pres.subj myself err, if I not work must=pres.subj)
'I would be mistaken, if I didn't have to work'

(77) (past subj): dü hätš niks sa:və solə
(you have=pres.subj nothing say should)
'you shouldn't have said anything'

4. Possibility. To indicate possiblity both [kenə] and [därfə] are used in their epistemic sense, the latter modal in the subjunctive only.

(78) dü kɒnš rä:šst hɒn 'you may be right'
(you may right have)

(79) s kɒn sɪn, dɒs d rä:šst heš
'it may be, that you are right'

Both internal and external negation seem possible:

(80a) s kɒn sɪn, dɒs d nɪt rä:šst heš
'it is possible that you may not be right'

(80b) s kɒn nɪt sɪn, dɒs d rä:šst heš
'it can not be that you are right'

When external negation is used (80b) the meaning is 'it must not be the case that'.

Only present indicative and subjunctive may be used with epistemic [kenə]. When the subjunctive is used a greater degree of doubt is conveyed. The subjunctive of [därfə] paraphrases the subjunctive meaning of [kenə] with no difference in meaning. Interrogative forms are possible:

(81) {kent / därft} er so ɒlt sɪn?
{can=pres.subj he so old be)
{may
'can he possibly be so old?'

(82) hät so-eps me:jliš kenə sɪn?
(have=past subj=aux such-something possible can be)
'could something like that have been possible?'

Only embedded verbs can take the past or future tense.

(83) s ɪš me:jliš dɒs er grɒnk ɪš gsɪn
(it is possible that he sick is been)
'it is possible that he was sick'

(84) s ɪš me:jliš dɒs er grɒnk värə vurd
(became fut. aux)
'it is possible that he will be sick'

5. Probability/Supposition/Assumption

a. To express probability the future auxiliary [vä:rə], an adverbial expression such as [vorsinliš] 'probably', or both may be used.

(85a) dü vurš rä:šst hɒn
(you fut. aux right have)
'you are probably right'

(85b) dü heš vorsinliš rä:šst
(you have probably right)
'you are probably right'

(85c) dü vurš vorsinliš räst hɒn
'you are probably right'

In (85c) there seems to be a greater commitment on the part of the speaker to assert the probability of the proposition. It may be noted here that the future auxiliary carries the meaning of probability rather than that of futurity. To express a future event which, in the mind of the speaker, is certain to occur, Alsatian generally uses the present tense with a time adverb indicating futurity such as [morjə] 'tomorrow', [ɪvərmorjə] 'the day after tomorrow', [hito:və]'tonight', [ɪm e jo:r] 'in a year', and so on. An alternative is to use the future auxiliary [vä:rə] with the infinitive of the main verb (see chart p. 30).

(86a) ər kumt morjə
'he will come tomorrow'

(86b) ər vurt morjə kumə
'he will come tomorrow' or 'he probably comes tomorrow'

(86b) is ambiguous as it could convey either probability or futurity. To specify that futurity is meant, an adverbial expression such as [gɒnts sišər] 'entirely certain' or [unbedɪngt] 'without fail' may be added to a sentence having the future auxiliary.

(86c) ər vurt gɒnts sišər morjə kumə
'he will certainly/most likely come tomorrow'

Without such an adverbial expression the difference between (86a) and (86b) lies in the degree of certainty, the latter implying some degree of doubt.

b. To express supposition, assumption, and related probability, [mɪ:n] and [solə] may be used in the various tenses, in the declarative and negative forms, but not, it seems, in the question form.

(87) ər sɔl ninənintsiš jo:r ɒlt sɪn
(he must 99 years old be)
'he is said to be 99 years old'

(88) si mɪ:n fol sɪn, um sofi:l grɔmbo:l tse mɒxə
(they must drunk be, to so-much din to do)
'they must be drunk to make such a din'

(89) si hɒn fol mɪ:n sɪn, um so eps tse mɒxə
(they have drunk must be, to such something to do)
'they must have been drunk to do such a thing'

(90) dü {mɪ:štš / sotš} nɪt vol sɪn
(you must-pres.subj not drunk be)
'you presumably shouldn't be drunk' (but you are)

(91) dü hätš nɪt ɪm vɪrtshüs sodə bli:və
(you have-pres.subj not in-the pub must-subj stay)
'you should not have stayed in the pub)

6. Necessity/Conclusion. To express necessity, conclusion, only [mɪ:n] 'must' in its epistemic sense is used, and the modal cannot be negated nor take an interrogative form.

(92a) ər mʊ:s tha:m sɪn, s lɪ:ət ɪš ɒn
(he must at-home be, the light is on)
'he must be home, the light is on'

(92b) ər mʊ:s nɪt tha:m sɪn, s ɪš ləs fɪnšdər
(he must not be home, it is all dark)
'he must not be home, everything is dark'

(93) s majdələ mʊ:s grɔnk sɪn, s het gəbroxə
'the little girl must be sick, she vomited'

(94) s mʊ:s rä:jə, s vɒkst niks me:
(it must rain, there grows nothing more)
'it is necessary that it rains, nothing grows anymore'

While the modal in this sense can only be in the present tense, either indicative or subjunctive, the event denoted by the main verb may be in the past.

(95) ər mʊs tha:m sɪn gsɪn, iš hɒb nə redə he:rə
(he must at=home be be=PP, I have him talk hear)
'he must have been at home, I heard him talk'

When the subjunctive is used, there is always a counter-factual meaning.

(96) ər mɪ:st tha:m sɪn gsɪn
'it would have been necessary that he be home (but he wasn't)'

(97) ər mɪ:st do:t sɪn, um s-mül nɪmi uf tse mɒxə
(he must=pres.subj dead be, for the mouth no=more open to do)
'he would have to be dead not to open his mouth anymore'

7. Volition

a. Alsatian has two modals [velə] and [mešdə] (the latter used only in the subjunctive) which in their root meaning express either want or intent (indicative) or inclination (subjunctive).

(98) iš vɪl vɪsə vɒs d mɒxš
'I want (to) know, what you are doing'

(99) vɪt eps sa:və?
(want=you something say)
'do you want to say anything?'

(100) mr velə niks dəfun vɪsə
(we want nothing from-it know)
'we don't want to know anything about it'

(101) iš {mešt / vot} rə:j hɒn
'I would like to have peace'

(102) {votš / meštš} nɪt mɪtkumə?
'wouldn't you like to come along?'

[velə] in the subjunctive paraphrases [mešdə], but with a slightly stronger degree of volition. [velə] is distinct from other modals considered so far, in that the event denoted by the main verb lies in the future; the time point referred to by the modal is always prior to that referred to by main verb. Thus there is often a notion of futurity inherently involved in the use of [velə] by the mere fact that the potential realization of the event often falls in the future. Futurity, however, does not seem essential to the meaning of [velə] and [mešdə].

(103) ər sɒ:t ər vɪl siš s lä:və nämə
(he says he wants himself the life take)
'he says he wants to kill himself' (volition)

(104) ər sɒ:t ər vurt siš s lä:və nämə
(fut.aux)
'he says he is going to kill himself' (future)

[velə] may be used in all tenses, in declarative, negative and question forms.

(105) (past) heš nɪt švɪmə velə?
(have=you not swim want)
'didn't you want to swim?'

(106) (fut) mr värə švɪmə velə
(we fut.aux swim want)
'we will (probably) want to swim'

(107) (fut) dü vurš švimə kenə velə
(you fut.aux swim can want)
'you will want to be able to swim'

(108) (past subj) hätš nɪt švimə velə?
(have=pres.subj not swim want)
'wouldn't you have liked to swim?

b. Whenever [velə] is used with the main verb in a perfective tense, there is ambiguity in the meaning conveyed.

(109) ər vil gäsə hɒn
(he wants eat=PP have)
'he wants others to eat' or:
'he claims to have eaten'

Either the subject of the main verb is understood to be different from that of [velə] ('he wants the food to be eaten by someone') and [velə] is then used in its root meaning, or there is only one subject for both [velə] and the main verb ('he claims to have eaten') and then [velə] is used in its epistemic meaning (IV.B.7.c.). This seems to be consistent with the observation made earlier (IV.B.7.a.) that the root meaning of [velə] is based on information that comes from the future. Therefore [velə] in its root meaning is incompatible with a main verb in the past. Although (109) uses the perfective [gäsə hɒn] 'have eaten' the meaning conveyed refers to the future 'he wants others to eat' and not 'he wants others to have eaten'.

c. [velə] in its epistemic meaning seems to convey an assertion which the speaker questions.

(110) ər vɪl gšejt sɪn. un dəbi: kɒn ər nɪt uf drej tse:lə
(he wants smart be, and by-that can he not up-to 3 count)
'he claims to be intelligent, yet he can't count up to three' (=yet he is really utterly dumb)

(112) si velə fi:l gält hɒn, un dəbi: vo:nə sə ɪm ə lox
(they want much money have, and by-that live they in a hole)
'they claim to have a lot of money, yet they live in a very shabby place'

(113) dü vɪt ɪn ɒmärikɒ: gəlä:pt hɒn, un kɒnš ken vort äŋliš?
(you want in America live=PP have=aux, and you=can not= a word English)
'you claim having lived in America, and you don't know one word of English?'

In the preceding examples, the second clause is not necessary to convey the speaker's doubt; non-linguistic devices such as gestures, intonation may do as well. It seems then that in the case of epistemic [vələ], while the speaker asserts the existence of the subject's volition, he also seriously questions, if not rejects, the reality of the object of the subject's volition. That latter dimension does not occur with any of the other modals.

d. There are a few rare instances, when [vələ] may mark an imperative demand and then comes close to the meaning of English 'will'. The example I have is an indirect speech act in which the imperative implies a threat directed toward the listener, and is syntactically a question.

(114) vɪt scfort ha:m kumə?
(intend-you immediately home come)
'you better come home right away (or else)'

When, instead of [vələ], Alsatian uses [vä:rə] the future auxiliary corresponding to English 'will', the meaning conveyed is simply a question regarding the subject's intention about the future event expressed by the main verb, and no longer carries any threat.

(115) vurš sofort ha:m kumə?
(fut. aux=you immediately home come)
'will you come home right away?'
'you probably come home right away?'

V. Conclusion

Much remains to be investigated about modality in Alsatian, and the preceding observations are merely a preliminary attempt to describe some of its aspects. In general, the modals seem to express presumptiveness to a certain extent. When the modals [mɪ:n], [solə], [därfə] are used, the speaker views the event as being dependent on some external authority. When [kenə], [mešdə], [vələ] are used, the speaker views the agent as the initiator of the event. Within each category there are points along a probability continuum which may be expanded through the use of the subjective.

Force	Source of Authority	
	Internal	External
great uncertainty slight possibility	[kenə]	[darfə]
intermediate	[meš̆də]	[solə]
strong probability or compulsion	[velə]	[mɪ:n]

When the modal is in the subjunctive rather than in the indicative mood, an additional counter-factual dimension is added, which increases the degree of doubt conveyed (see footnote 6).

Alsatian modals support Horn's hypothesis of a semantic connection between root modality and epistemic modality. Alsatian epistemic modals stand in contrast to the factual in that they involve the speaker's point of view, and are capable of expressing various kinds of relation to reality.

There are other semantic questions which would need to be considered in a more comprehensive study. How does the speaker view modality, how does he choose one particular modal in a particular mood rather than another, and what is the relationship between modality and aspect? These are but a few areas of possible investigation.

Footnotes

1 The verb [ge:n] 'to go' is modal-like in this respect:

i) mr ge:n šʊfə
'we are going to work'

which then indicates also imminence.

2 A few very common verbs have two alternate forms, a simple verb form and the construction with [dä:d] which may be used interchangeably.

[vɪsə] 'to know'

ii) iš vɪst ken üsvä:j
iš dä:d ken üsvä:j vɪsə
'I wouldn't know any way out'

[ge:n] 'to go'

iii) s gäng əm nɪt ums gält
s däd əm nɪt ums gält ge:n
(it would go him not about money)
'it wouldn't be a matter of money according to him'

[kumə] 'to come'

iv) vän ər kumə kent, käm ər sofort
vän ər kumə kent, däd ər sofort kumə
'if he could come he would come right away'

3 By compound tense is meant any tense involving an auxiliary and a main verb, such as a perfective tense.

4 The double infinitive construction is not restricted to modals; it may occur with a very few verbs such as [he:rə] 'hear' and [sä:n] 'see':

v) iš hɒb se rɐ:fə he:rə
(I have them call hear)
'I heard them call'

vi) iš hɒb nə hilə sä:n
(I have him cry see)
'I saw him cry'

5 Only in the subjunctive can [därfə] have an epistemic reading in Alsatian. However [därfə] in the subjunctive may also have the root meaning of permission:

vii) dü därfts ɒ glas hɒn vän d šlugə kents
'you would be permitted to have an ice-cream, if you could swallow'

6 This study doesn't deal with an investigation of the relationship between subjunctive and modality, which would be necessary for a comprehensive analysis of modality. The following observations seem pertinent, however. According to Bouma (1973),

> Subjunctive and modality contrast in that the former focuses on the fact that the event stands in no designated relation to reality, whereas in the latter the focus is on a particular relation.

When the subjunctive is used with epistemic modals, the speaker asserts the lack of reality of a certain modality; thus the event is doubly removed, first by the subjunctive and second by the use of the modal. In conditional sentences, in which in Alsatian the subjunctive is used, the speaker asserts a particular modal relation of the event to reality as counter-factual.

viii) vän ər kumə vot, sot ər d rais mɒxə kenə
(if he come want=pres.subj, must=pres.subj he the trip make can)
'if he wanted to come, he should be able to make the trip'
(both the intention of the agent and the event are negated: the agent won't come, he doesn't want to)

7 Example (106) illustrates the stackability of Alsatian modals, a common phenomenon in that dialect. Stackability of Alsatian modals would need a thorough investigation, but is beyond the limits of this paper. The following examples are simply to illustrate further the concept.

ix) dü vurš dort švɪmə kenə mɪ:n
(you fut=aux there swim can must)
'you will have to be able to swim there'

x) s kent sɪn, dɒs dü gla:ve kenə velə mešš
'it could be possible, that you would like to want to be able to believe'
(it can=subj be, that you believe can want would-like=2=sg)

xi) ər kent rä:št hɒn
'it might be possible that he is right'

xii) ər mɪst rä:št kenə hɒn
'he would have to be able to be right' (but isn't)

xiii) vän ər eps sa:və vot, sot ər rä:št kenə hɒn
Iif he wanted to say something, he should be able to be right'

In both (xii) and (xiii) [kenə] no longer retains the epistemic meaning of (xi). It seems then, that in Alsatian, when modals are stacked, only the highest in the phrase-structure tree may be epistemic.

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CHART OF ALSATIAN MODELS

		Singular			Plural
		iš (1)	dü (2)	ər,əs,si (3)	mr(ı) ır(ı) si(3)
present:	kenə (ability, be able, can)	kɒn	kɒnš	kɒn	kenə
	dårfə (permission, be allowed to, may)	dårf	dårfš	dårf	dårfə
	mɛın (must, have to, necessity)	mɛıs	mɛıš	mɛ:s	mɛın
	velə (desire, want to, wish)	vɛl	vɛt	vɛl	velə
	solə (obligation, be supposed to, shall)	sol	solš	sol	solə
past:	aux: hɒn + P.P.	hɒb	hɛš	hɛt	hɒn
	P.P.: gəkent gədårft gəmɛınt gəvelt gsolt				
future:	aux: vărə+infinit.	vʊr	vʊrš	vʊrt	vărə
pres.subj.	kenə	kent	kentš	kent	kendə
	dårfə	dårft	dårftš	dårft	dårfdə
	mɛın	mɛıst	mɛıštš	mɛıst	mɛısdə
	velə	vɒt	vɒtš	vɒt	vədə
	solə	sɒt	sɒtš	sɒt	sədə
	*mešdə (to like to, inclination)	mešt	meštš	mešt	mešdə
past subj.	aux: hɒn + P.P.	hät	hätš	hüt	hädə
present:	brüšə (need to)	brüš	brüš	brüšt	brüšə
pres.subj.:		brišt	brištš	brišt	brišdə

*Except for [mešdə], modals in Alsatian occur in all tenses.

MODALITY IN ALSATIAN

Abbreviations and Symbols Used:

1	1st. person
2	2nd. person
3	3rd. person
aux	auxiliary
dim	diminutive
DO	direct object
fem	feminine
fut	future
ind	indicative
inf	infinitive
masc	masculine
neut	neutral
pl	plural
pp	past participle
pres	present
sbj	subject
sg	singular
subj	subjunctive

$\Box$	it is necessary that
$\Diamond$	it is possible that
$\sim$	negation
p	proposition

WHAT COULD DEKIRU POSSIBLY MEAN?

W. L. Wight[1]

Abstract: DEKIRU is a Japanese verb with root and modal interpretations. The modal interpretations are dependent on the absence or presence of an agent and volition, with respect to an action, in a complement sentence predicated by DEKIRU.

Root and Modal Sense

DEKIRU is a Japanese verb which in its root sense may be used to indicate the appearance or occurrence of some object or event, and which seems to be constrained to events or things which in some way occur naturally or spontaneously. In its modal sense DEKIRU may generally be interpreted as expressing a state of possibility or existence of a potential skill or capacity. Of the sentences below, the first is interpreted with a root sense of DEKIRU, while the second is interpreted with a modal sense:

1. hoho ni nikibi ga deki-ta[2]
   cheek pimple
   (Lit.: on cheek pimple appeared)
   (A pimple broke out on his cheek.)

2. kare wa piano o hik-u koto ga deki-ru
   he piano play nominalizer

It should be pointed out that what I refer to as the "root" and modal sense are not epistemic, in spite of the English glosses I will be giving. The root sense of DEKIRU is its interpretation as an independent verb which is not modal or dependent for its interpretation on a complement verb in a lower constituent. In its modal sense, DEKIRU may be interpreted as a nontransitive[3] equivalent of English CAN. For instance (3.a) may be interpreted with the root sense of CAN,[4] while in (3.b) it is interpreted with the epistemic sense of CAN.

3.a. He can do 50 one-handed pushups.
  b. He could have been sick.

(3.a) expresses some sort of capacity or ability, whereas (3.b) expresses an epistemic sense of possibility and does not refer to a capacity. I have translated the modal sense of DEKIRU in English in most of the sentences which follow as "It is/was possible for NP to VP." But the reader should keep in mind that this is not epistemic possibility, but some sort of a state of potential capacity or ability to do something.

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Concerning the semantics of sentences with DEKIRU as a matrix verb, there seem to be several instances in which DEKIRU may be ambiguously interpreted with either a root or modal sense. Interpretations in its modal sense may also vary from sentence to sentence or be vague. To some extent, though, it is possible to discern which sense is intended by relying on syntactic structures and lexical categories.

Root Sense in Simple Expressions

The simplest cases in which DEKIRU may be interpreted in its root sense are in expressions concerning phenomena which would not normally be assumed to have a volitional agent. The Japanese sentences below have been paraphrased from Morita (1977: 309-310).

4. tuki wa tikyuu kara deki-ta
   moon earth from
   (The moon came from the earth.)

5. sato wa sato-kubi kara deki-ru
   sugar sugar-cane from
   (Sugar comes from sugar-cane.)

6. ringo wa aomoriken de deki-ru
   apple Aomori prefecture from
   (Apples come from Aomori prefecture.)

7. kaki wa uti de deki-ta
   persimmon house from
   ((These) persimmons came from/were grown at home.)

In the above four sentences NP's affixed with the particle GA have been avoided, because it is in structures with GA in which interpretations between a modal and root DEKIRU may be ambiguous. The following three sentences with GA, though, are not ambiguous and DEKIRU receives a root interpretation as they are clearly agentless.

8. mejiri ni siwa ga deki-ta
   outside corner of wrinkle
   the eye
   (He's got crows' feet.)

9. hasira kara eda ga deki-ta
   pillar from branch
   (A branch sprouted from the pillar.)

10. ame de tokorodokoro mizutamari ga deki-ta
    rain by here and there puddles
    (Puddles were formed here and there by the rain.)

In (1) and (4-10), the phenomenon which occurs is not controlled by the surface subject nor would one normally assume some (non-supernatural) volitional entity to be acting as agent, i.e., the rain does not volitionally make puddles. In this way, except metaphorically, it would be incorrect to state such a phenomenon with an active verb:

10'. *ame ga tokorodokoro mizutamari o tuku-tta
make-past
(The rain made puddles here and there.)

If a volitional agent is not expressly stated, but is inferred, DEKIRU may indicate a state of completion of an act or process resulting in the occurrence of the subject NP. In these instances the subject NP's are not agentive and therefore do not volitionally control the action or process which resulted in the state denoted by DEKIRU. In the following, the second of each pair of sentences expresses the action or process in the passive form of a verb other than DEKIRU. In both members of each set of sentences, (a and b), it should be noted that no agent NP is overtly expressed.

11.a. syokuji ga deki-ta
meal
(A meal was prepared (and is ready to eat).)

b. syokuji ga tukur-are-ta
make-passive-past
(A meal was prepared.)

12.a. yokotyoo ni patinko-ya ga tukur-are-ta
alley pachinko-parlor
(A pachinko parlor appeared in the alley.)

b. yokotyoo ni patinko-ya ga tukur-are-ta
build-passive-past
(A pachinko parlor was built in the alley.)

13.a. fusigi na koto ni tyoozoo ga koori kara deki-ta
strang thing carving ice from
(In a strange manner the carving appeared from the ice.)

b. fusigi na koto ni tyoozoo ga koori kara tukur-are-ta
make-passive-past
(In a strange manner the carving was made from ice.)

In the (a) sentences with DEKIRU as the matrix verb, the surface subject does not volitionally control the process or action indicated in the complement, and the emphasis in the interpretations is placed on the occurrence of the object rather than the volition which brought it into being. But each of the (a) sentences above, given a proper

context, could also be given a modal interpretation; and as they are, they are ambiguous.

Modal Sense of DEKIRU

The simplest form in which DEKIRU may be clearly inferred to take a modal reading is in a structure which I assume to be something such as:

W (NP) X NP Y VERB-Nonpast[5] KOTO GA Z DEKIRU
(agent) (nonstative)

KOTO is a nominalizer which for DEKIRU takes a nonstative (active) verb in the complement sentence. The following, which are possible modal interpretations of the (a) type sentences above, should make this clear.

11.c. (Taroo wa) syokuji o tuku-ru koto ga deki-ru
(Taroo) make
(It is possible (for Taroo) to make a meal.)

12.c. (Ueda-san wa) yokotyoo ni patinko-ya o tuku-ru koto ga deki-ru
(Mr. Ueda) build
(It is possible (for Mr. Ueda) to build a pachinko parlor in the alley.)

13.c. (kare wa) fusigi na koto ni tyoozoo o koori kara tuku-ru koto
(he) make
ga deki-ru
(It is possible (for him) to make carvings out of ice in a strange manner.)

It may be noticed that for the root readings of 11-13, I have given the past tense form of DEKIRU, while for the above modal interpretations, the nonpast forms were given. It seems easier to infer potential readings from the nonpast form than from the past tense form. The reason may be related to certain implications the past tense may carry (see section V). It should be kept in mind, though, that in the past tense similar modal readings for the above type of sentences are also possible.

With respect to the structural description and the above sentences, it may also be noted that the complement verbal suffix is nonpast. Only the nonpast form may occur before the nominalizer (KOTO) in sentences with DEKIRU as the matrix verb. This parallels the modal structure of English sentences with CAN:

14.a. He can/could play the piano.
b. *He can/could played the piano.

15.a. He ?can/could have played the piano.
b. *He can/could had played the piano.

In English it seems that a verb contingent to and following CAN is never in the past tense, but always in the nontensed form.

Other ways of expressing the potential in Japanese are with a potential verbal suffix or with a form of deletion in constructions with DEKIRU as the matrix verb. One exception to verbs which may take the potential suffix is SURU (to do). For the potential of SURU, DEKIRU is used (see Alphonso 1974: 913). In sentences (16-18), the (a) set illustrates the potential with DEKIRU and without deletion; the (b) set, DEKIRU with deletion; and the (c) set, the potential verbal suffix (-E- or -RE-) which is attached to what would be the complement verb in the (a) sentences. (16) and (18) are from Makino (1975-76: 118).

16.a. watasi wa piano o hik-u koto ga deki-ru
I piano play

b. watasi wa piano ga deki-ru

c. watasi wa piano ga hik-e-ru
play-pot.-nonpast
(It is possible for me to play the piano.)

17.a. daiku wa nihon no uti o ki to kami de tuku-ru koto ga deki-ru
carpenter Japan house wood and paper make

b. daiku wa nihon no uti ga ki to kami de deki-ru

c. daiku wa nihon no uti ga ki to kami de tuku-re-ru

(It is possible for a carpenter to build a Japanese house out of wood and paper.)

18.a. watasi wa gengogaku o kenkyuu su-ru koto ga deki-ru
I linguistics study do

b. watasi wa gengogaku ga deki-ru

c. watasi wa gengogaku ga kenkyuu deki-ru

(It is possible for me to study linguistics.)

(18.c) illustrates the use of DEKIRU as the potential for SURU, which does not take a suffixed potential form (*SURERU). In this sentence, DEKIRU has replaced SURU but otherwise the pattern follows that of the other (c) sentences. In (18.a) SURU has not been deleted, while in (18.b) it has undergone deletion.

Concerning the (b) set of sentences, Makino states:

> ...the verb "dekiru" can take a single NP instead of an embedded sentence, if the verb is uniquely tied in with an NP as in [16.b], or if a verb is a Sino-Japanese compound verb as in [18.a] ... (118).

For the (b) type of sentences we might postulate that they are derived by some sort of deletion-transformation rule, from the (a) type of sentences, such as the one given below.

SD	X	NP-O	Y	VERB-NONPAST (nonstative)	KOTO	DEKIRU
	1	2 3	4	6		6
SC	1	2 GA	4	Ø		6

It should be noted that when the complement verb has been deleted, if there is no other context than the sentence itself, it may be vague and difficult to interpret. For instance, if (16.b) were uttered by someone who made musical instruments, it might mean that it is possible for him "to make pianos" rather than "to play a piano." But it does seem as if some sort of idiomatic process is occurring which limits the set of possible interpretations. Expressions with a modal DEKIRU seem to be interpreted in terms of NP's which are conventionally associated with a set of specific actions or processes an agent may perform on those NP's. These include OBJECT-NP VERB relations such as given below:

OBJECT-NP's	VERB
SHIGOTO (work/job), KAIMONO (shopping), KEKKON (marriage), SOTUGYO (graduation)	SURU (do)
OTYA (tea)	IRERU (put into/serve)
TOMODATI (friend), TATEMONO (building), SYOKUJI (meal), PAN (bread)	TUKURU (build/make)
NIHONGO (Japanese, EIGO (English)	HANASU (speak)
PIANO (piano), GIITA (guitar)	HIKU (pluck/play)
TAIKO (drum)	UTU (beat/play)
SYAKUHATI (bamboo flute)	HUKU (blow/play)

It seems that underlying complement verbs which most readily are deleted are limited to those which are semantically redundant. The complement verb and NP together seem to create some set of semantic features which, with a presumed set of features for DEKIRU, makes the complement verb redundant. What these features might be, I cannot state formally, but that some such constraint exists on verbs which may be deleted can be seen clearly by examining the sentences below. (19.b) is derivable from (19.a), but neither (20.b) nor (21.b) is derivable from its corresponding (a) sentence.

19.a. Hanako wa otya o ire-ru koto ga deki-ru
serve
(It is possible for Hanako to serve tea.)

b. Hanako wa otya ga deki-ru
(same as for 19.a)

20.a. Hanako wa akatyan o koros-u koto ga deki-ru
kill
(It is possible for Hanako to kill babies.)

b. *Hanako wa akatyan ga deki-ru

21.a. kare wa piano o ka-u koto ga deki-ru
he buy
(It is possible for him to buy a piano.)

b. *kare wa piano ga deki-ru

(21.b), of course, could have a modal reading as given in (16.b) earlier, if it were not derived from a sentence such as (21.a); but in no easily understood sense would it have a root reading. (20.b), if we were to assume it to be derived from some other sentence, could have a modal reading such as

20.b.' (It is possible for Hanako to bear children.)

It is also possible to get a root reading from sentence (20.b):

20.b." (Hanako is pregnant; i.e., Hanako's womb is swollen with child.)

SURU In Contrast With DEKIRU

It was noted that for the potential form of SURU, DEKIRU is used (as in 18); but this may lead to ambiguity when a sentence is open to a root interpretation of DEKIRU, particularly with respect to the past tense form. For instance:

22.a. yooji o su-ru
errand/business do-past
((I) do/will do (some) errand.)

b. (hiru-gohan no aida ni) yooji ga deki-ru
noon meal during
((During lunch) it is possible (for me) to do (an) errand.)

c. (itumo hiru-gohan o tabe-hajime-ru to) yooji
always eat-nonpast begin to
ga deki-ru
(Whenever I begin to eat lunch, an) errand (always)
comes up.

d. yooji o si-ta
do-past
((I) did (some) errand.)

e. yooji ga (zenbu) deki-ta
all/completely
(It was possible to finish (all of the) business.)

f. (asita si-nakereba naranai) yooji ga deki-ta
tomorrow must do
(An errand (which must be done tomorrow) came up.)

23.a. jyunbi o su-ru
preparations do-nonpast
((I) make/will make preparations.)

b. (kare ga asita ku-ru mae ni) jyunbi ga deki-ru
he tomorrow come before
(It is possible to make preparations (before he comes tomorrow.)

c. (none for the root interpretation of DEKIRU)

d. jyunbi o si-ta
do-past
((I) made preparations.)

e. (tenrankai no) jyunbi ga deki-ta
exhibition
(It was possible to make preparations (for the exhibition).)

f. (none for the root interpretation of DEKIRU)

For (22) given proper contexts (such as those in parenthesis), DEKIRU may receive either a modal (b and e) or root (c and f) interpretation with YOOJI. For (23), with respect to JYUNBI, the modal interpretation seems to be the only possible interpretation. For sentences like (23), such nominals as JUNBI, "preparation" (KESSIN, "resolution;" RYOKOO, "trip:" KAIMONO, "shopping:" etc.), DEKIRU can only signal the potential possibility. In the past tense with nominals such as these, a possible state of completion of an action or process is signaled. For nominals such as YOOJI (errand), on the other hand, DEKIRU in its root sense refers to a state of occurrence of the nominal, and in its modal sense a possibility of "doing something" with respect to the nominal. Simply put, one does not do an errand until an errand to do exists; but one must make preparations before the preparations exist. Consequently, nominals such as YOOJI, which can be acted on after they occur, are open to semantically ambiguous interpretations between a root or modal sense of DEKIRU.

Vacuous and Nonvacuous Interpretations

With respect to the two senses of DEKIRU, an inclusive relationship seems to hold. It appears that if the root sense is possible, the modal sense also is possible; but that if the modal sense is possible,

the root sense may or may not be possible. Thus, in the simplest of cases with the past tense form of DEKIRU (DEKI-TA), if a state has occurred or appeared, then it was possible for the state to appear or occur. But with respect to root interpretations of DEKIRU with nominals such as YOOJI, the inclusive relationship applies vacuously, i.e., if an errand occurs, then it was possible for an errand to occur (but this does not imply anything concerning the possibility of taking care of the errand). In these instances,(as in 18.c and 18.f, sentences 1 and 4-6), the modal sense would not seem to impart any "meaningful" nuance to an expression, whereas for sentences with NP's such as JYUNBI, the "modal" sense of DEKIRU would seem to carry some implicative nuance.

It seems then, that, only in those instances in which there is an embedded (possibly underlying) complement verb, does the modal sense apply nonvacuously. This might be made clear by contrasting the following two sentences.

24. hoho ni nikibi ga deki-ta (sentence (2) repeated)
cheek pimple
(a pimple broke out on his cheek (and it was possible for a pimple to break out on his cheek).)

25. kyonen huransu e ryokoo ga deki-ta
last year France to trip
(Last year it was possible to take a trip to France.)

In (24) the modal reading in parenthesis, under most contexts, would apply vacuously; but for (25) the modal interpretation seems to implicate that some volition by the speaker is being or has been exercised. When DEKIRU appears in such sentences as (25), it is implied that it is possible to do something and that something is done through some effort exerted by the agent. In the sentences below, possible implications have been bracketed in the English translations.

26. kyonen huransu e ryokoo ga deki-ta.
(Last year it was possible to take a trip to France
[and (I) did take a trip to France].)

27. syuumatu konsyuu no syukudai ga zenbu deki-ta
weekend this week homework all
(It was possible to do all of this week's homework on the weekend [and (I) did do all of it].)

If the speaker only intended to state that some activity is done, then the verb in the underlying complement would suffice by itself:

27'. syuumatu konsyuu no syukudai o zenbu si-ta
do-past
((I) did all of this week's homework on the weekend.)

Negation and Volition

In simple negation where DEKIRU is suffixed with the negative non-past suffix NAI or the past negative form NAKATTA, the proposition asserted by DEKIRU is simply negated for either root or modal interpretations:

28. hoho ni wa nikibi ga deki-nai
cheek pimple
(a pimple does not appear on his cheek. root reading)

29. kyonen huransu e no ryokoo ga deki-nakatta
last year France trip
(Last year it was not possible (for me) to take a trip to France.)

If a clause with DEKIRU is conjoined with another which negates the DEKIRU clause, though, the interpretations for the resulting complex sentence are not as simple. For clauses in which a root reading is given for DEKIRU, the result may be a logical contradiction:

30. *hoho ni nikibi ga deki-ta ga, si-nakatta
but do-neg past
(*A pimple appeared on his cheek, but didn't.)

On the other hand, if a modal interpretation is possible, for the DEKIRU clause, any implication that the event predicated by DEKIRU occurred is cancelled:

31. watasi wa piano ga deki-ta ga, si-nakatta
I piano but
(It was possible for me to play the piano, but I didn't.)

32. Kyonen huransu e no ryokoo ga deki-ta ga, si-nakatta
last year France trip but
(Last year it was possible (for me) to take a trip to France, but I didn't.)

In (31) and (32) only the implication that the action occurred is cancelled. What remains is an assertion that the occurrence or non-occurrence of the action was under the volition of an agent.

With respect to instances when negation of a DEKIRU clause with a conjoined sentence does not result in a contradiction, these cases seem to involve generic statements such as are possible in English:

33. Elephants can swim.

34. Cactus can grow in the desert.

Similar statements in Japanese with DEKIRU can be made, but they seem controversial. Acceptance of nonvolitional modal DEKIRU statements varies from speaker to speaker, but all of my informants have stated that the sentences below are understandable. (36 is from McCawley 1976: 364)

35. zoo wa oyog-u koto ga deki-ru
elephant swim
(It is possible for elephants to swim.)

36.???saboten wa sabaku ni haer-u koto ga deki-ru
cactus desert grow
(It is possible for cactus to grow in the desert.)

(35) is not problematic as elephants are seen as capable of volition, but all of my informants had difficulty accepting (36), though McCawley (1976: 314) reports it as given to him as acceptable (364). If negated with a conjoined sentence, my informants seemed slightly more willing to accept it:

36'.??saboten wa sabaku ni haer-u koto ga deki-ru ga, sahara sabaku
but Sahara desert
ni wa soo si-nai.
so do-neg nonpast
(It is possible for cactus to grow in the desert, but in the Sahara, they don't.)

If the generic aspect of the statement is made more general and negated, it seems even more acceptable, but not completely:

37. ?seibutu de wa saboten sika, sabaku ni haer-u koto ga deki-nai
plants cactus except desert grow
(Except for cactus, it is not possible for plants to grow in the desert.)

Another sentence McCawley gives which seems somewhat acceptable is:

38. ?asagao wa asa sika sak-u koto ga deki-nai
morning-glory morning except bloom
(It is not possible for morning-glories to bloom except in the morning.)

I cannot offer a satisfactory explanation as to why there would be varying degrees of acceptance for sentences such as (35-37), except to point out that it seems to have something to do with the negative type of conjunctives such as SIKA (except) and the type of verb in the complement sentence.

Deontic Interpretation

In a footnote McCawley (1976:368) states that only the (-E- or -RE-) potential suffix (as in 16.c and 17.c above), ... "but not 'deki-', has the additional meaning of 'is permitted' ... (368)." In this case, I would not be certain how (40) would be interpreted. (In (38) below, the potential verbal suffix is used, while in (40) DEKIRU is used as a paraphrase (40) is from Morita (1977:310)).

39. kodomo wa hitori de eiga-kan ni hair-e-nai
child alone movie-house enter-pot. -neg nonpast

40. kodomo wa hitori de eiga-kan ni hair-u koto ga deki-nai
enter-nonpast
(It is not permitted for children to enter a movie-house alone.)

Other examples suggested to me by A. Yamamoto include:

41. kyositu de tabako o su-u koto ga deki-nai
classroom tobacco smoke
(It is not permitted to smoke in the classroom.)

42. gaku mae de kuruma o unten su-ru koto ga deki-nai
school front vehicle drive do
(It is not permitted to drive on the school grounds.)

Though not as easily derived as from sentences with the potential suffix, it seems possible to derive deontic expressions from these sentences. Yamamoto (personal communication) has suggested that it seems to be related to generic interpretations in contrast to specific interpretations. For instance for (40), were KODOMO to be replaced with a more specific NP, DEKIRU would not receive a deontic interpretation:

40'. ano hito wa hitori de eiga-kan ni hair-u koto ga deki-nai
that person
(It is not possible for that person to enter a movie-house alone.)

In (40) and (42) above, DEKIRU has been affixed with the negative nonpast marker. They may be uttered without a negative suffix, but it seems that contexts in which a non-negated sentence with a deontic reading occur less frequently than for negated sentences.

The negated sentences seem to carry a deontic interpretation as an euphemistic means of replacing more direct statements regarding permission, i.e., in English a deontic sense of CAN is often used in a similar manner:

43. Children cannot enter the movie house unaccompanied.

(43) could of course be interpreted as a statement with respect to some physical or mental capacity of children; but it would more probably be read with a deontic interpretation given to CAN in most instances. If

(42) were not negated, though, it seems that it would be more difficult to decide between the "capacity" and deontic interpretations.

43'. Children can enter the movie house unaccompanied.

If we would remove "unaccompanied", the sentence seems even more difficult to assign an interpretation.

43". Children can enter the movie house.

Similarly, in Japanese (40) would become more difficult to assign the intended reading were it not negated and if HITORI DE (alone) were removed.

40'. kodomo wa eiga-kan de hair-u koto ga deki-ru
(It is possible/permissible for children to enter the movie house.)

In most instances, though, were a deontic reading intended, other more appropriate expressions would be used, such as:

40". kodomo wa eigakan ni hai-te-mo ii
children movie-house enter- -even alright
((Lit.) In children to enter movie-house even is alright.)
(It is permissible for children to enter the movie-house.)

As more appropriate expressions, such as (40"), exist for non-negated deontic meanings, and as the potential verbal suffix would suffice for negated potential readings,[6] "it seems that when negated, DEKIRU would be used as in (40-41), ambiguously to imply politeness." It might be assumed that this is implied because it deliberately makes the statement ambiguous so that the hearer must infer that it is a denial of permission or some such thing. On the other hand, the nonnegated forms with DEKIRU would not be so apt to occur as there may be less reason to assert a positive deontic statement ambiguously.

Footnotes

1 I am grateful to A. Yamamoto for his intuitions, criticisms, and comments of which I have taken liberal advantage, and to C. K. Oh, whose comments, criticisms and encouragement have guided me in writing this paper.

2 Particles and affixes, unless otherwise noted in the text, may be roughly translated as below:

Affixes

-(r)u	nonpast
-ta/da	past
-na-i	neg-nonpast
-na-ka tta	neg-past

Particles (postpositions)

wa	topic	o	accusative
ga	nominative	no	generative
ni	dative	de	locative/instrumental

3 In this paper I have followed Kuno's analysis of DEKIRU as a stative (nontransitive) verb (1973: 136-150, 330-339). But see McCawley for a transitive analysis (1976: 357-368). Makino follows Kuno's basic analysis, but suggests a slightly different one based on what he assumes is a spreading syntactic change (1975-76: 97-123).

4 The term "root" is used in the literature to indicate a non-epistemic sense, but I have used it in this paper to indicate the nonmodal sense from which it would seem the modal senses are etymologically derived. In this respect, the reader may find it easier to assume that the nonmodal and modal uses of DEKIRU constitute the use of two separate words. A third sentence with English CAN may help explicate this:

3.c. He canned 50 bushels of peas.

There would seem to be no etymological relationship between the verb in the above sentence and the modal CAN in (3.a) and (3.b). But if it were assumed there was such a relationship, and that the modal senses were derived from the sense of CAN in (3.c), then the use of CAN in (3.c) would correspond to its root sense.

5 In modern Japanese the form which occurs here, RENTAIKEI (substantive form), is identical with the nonpast SYUSIKEI form. (See Henderson, 1946: 11-16).

6 The negated potential suffix may still be so ambiguous as the form with DEKIRU that either a deontic or "capacity" interpretation could be given.

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A NOTE ON CAN AND MAY

Choon-Kyu Oh and
Charles Seibel

Abstract: This paper is an attempt to characterize the meaning difference between can and may as epistemic modals. Based on some interesting differences of these modals in their syntactic behavior, negation and past formation, the paper claims that the crucial difference lies in the interpretation bases. Only when the base set denotes the speaker's knowledge set may may be used. There is no such restriction for can.

Introduction

What may be or even can be the difference between the meanings of can and may? In a majority of cases where one can be used, the other also may be used. Still native speakers seem to feel distinctly the difference. In this paper, we will argue on the basis of evidence presented in Section 2 that the only semantic difference lies in the subjectivity associated with may but not with can. We will argue that can denotes a mere potentiality. The senses of the terms subjectivity and potentiality we are using here are defined in the following section.

Definitions

The following definitions are deemed helpful in presenting our arguments, the first five of which we borrow from Kratzer (1977) with some inessential modifications. For the purpose of this paper, understand a proposition to be a set of possible worlds in which it is true. If W is the set of all possible worlds, the set of all propositions will be the power-set of W.

Definition 1. A proposition p is true in $w \in W$, iff $w \in p$. Otherwise p is false in w.

Definition 2. A set A of propositions is consistent iff in at least one possible world all its members are true.

Definition 3. A proposition p is compatible with a set A of propositions iff $A \cup \{p\}$ is consistent.

Definition 4. A proposition p follows from a set A of propositions iff there is no possible world where all members of A are true but p is false.

Kansas Working Papers in Linguistics, Vol. 5, No. 1, pp. 67 - 70

Definition 5. The meaning of 'possible in view of' is that function ζ, such that

i) each member of its domain is a couple (f,p), where f is a function which assigns a set of propositions to every $w \in W$ and p a proposition,

ii) if (f,p) is in the domain of ζ, $\zeta(f,p)$ is that proposition which is true in exactly those $w \in W$ where p is compatible with f(w).

Definition 6. A base set for a modal interpretation, or simply a base set, is the set of propositions that f picks out for a given $w \in W$.

Definition 7. A subjective modal is a modal for whose interpretation the base set coincides with the set of propositions that represent the speaker's current knowledge about the actual world.

Definition 8. A proposition p is potential iff there is a base set compatible with p.

Definition 9. A modal sentence is a sentence which contains a modal expression in its matrix component.

Definition 10. A demodalized sentence is the sentence which remains after the modal expression is removed from the corresponding modal sentence. And the proposition denoted by a demodalized sentence is a demodalized proposition.

Characterization of Differences

Now we are ready to discuss the differences between can and may. Only when the base set denotes the speaker's knowledge set or the set of propositions that collectively represent the speaker's knowledge, we may use may. In contrast, can can be used with any consistent base set.

Argument A: First, notice that can may be used in an interrogative sentence while may cannot in its non-deontic reading.

1) a. Could it be raining in Chicago?
   b. *Might it be raining in Chicago?

According to our proposal, what the speaker does in using (1b) is to ask whether the proposition that it be raining in Chicago is compatible with his knowledge base. But this is a rather unreasonable move to make in view of the fact that the speaker himself is the best authority on what his knowledge base consists of. Notice that (1b) is not syntactically ungrammatical. The sentence sounds perfectly acceptable in a self-directed, monologuous reading.

Argument B: The second piece of evidence is found in the following pair of sentences quoted from Karttunen (1971):

2) a. *It isn't raining in Chicago, but it may be raining there.

b. It isn't raining in Chicago, but it could be.

Karttunen argues in the last section of his paper that modal expressions in ordinary language are usually epistemically interpreted, that is, on the basis of the speaker's knowledge (cf. Definition 7) while "logical possibility" (or potentiality in the sense defined above) is expressed by the mood of a verb -- thus the acceptability or lack of it of the example sentences quoted above from his paper.[1]

It is obvious that what triggers the acceptability difference in (2) can only be the difference in the modal form that is used. But two distinct features are involved here: mood and the kind of modal used. Karttunen considers the former to be the determining factor. We would like to contend that it is the kind of modal that renders one sentence contradictory and the other not. Note how the unacceptability of (3b) is also accounted for if we construe can to express logical possibility while viewing may as a modal that can only be interpreted subjectively.

3) a. It could be/could have been raining in Chicago but it isn't/wasn't.

b. *It might be/might have been raining in Chicago but it isn't/wasn't.

Since we analyze may to be a subjective modal, the demodalized proposition according to our analysis is asserted to be compatible with the speaker's knowledge set. But the second conjunct in (3b) is being asserted, indicating that the negation of the same demodalized proposition is in the speaker's knowledge set. Thus (3b) involves a contradiction. In other words, a demodalized proposition may not be contradicted if the modal involved is may or might.

Incidentally, the speaker's knowledge base may be temporarily modified either contextually or by explicitly providing a conditional phrase. (Cf. 4 below.)

4) a. If John had been there, Mary might have stayed. But she didn't.

b. Robert Kennedy might have become President.

The semantics of such sentences would be, in our approach, that the union of the conditional proposition and the speaker's knowledge base is compatible with the demodalized proposition of the consequent sentence. But the subjective vs. potential distinction is needed even with conditional clauses as is demonstrated by the following sentences:

5) a. If John had been there, Mary could have stayed, but she wouldn't have.

b. *If John had been there, Mary might have stayed, but she wouldn't have.

Argument C: The third and last argument involves the fact that when a modal sentence with the non-deontic may is syntactically negated it does not represent its semantic contradiction. The scope relation between a negative word and the modal expression differs, as is shown by the accompanying logical representations (cf. 6) or the compatibility (cf. 7) illustrated below:

6) a. John cannot be sick. (-(◇sick (John)))
   b. John may not be sick. (◇(-sick (John)))
7) a. *John can be sick but then John cannot be sick.
   b. John may be sick but then John may not be sick.

According to our definition of subjective possibility expressed by a modal sentence with may, the negation of 'John may be sick' is the proposition that it is not compatible with the speaker's knowledge base that John be sick. But exactly when will a proposition be incompatible with the speaker's knowledge base? Obviously a proposition and its negation can be compatible simultaneously with the speaker's knowledge set (cf. 7b). A quick perusal of the definitions given above should convince the reader that a proposition is incompatible with the speaker's knowledge base only when its negation follows from it. The negation of (6b) is (6b'), not (6b"):

6) b'. John must be sick. (□(sick (John)))
   b". John may be sick. (◇(sick (John)))

Notice that can does not have a corresponding necessity modal. The modal must is not such a necessity modal as is demonstrated by the compatibility of (8a):

8) a. John could be sick but he must not be.
   b. *John might be sick but he must not be.

To put differently what is revealed by the sentences (6)-(8), the domain of possible worlds that are considered in interpreting may and must includes only those worlds which are compatible with the speaker's knowledge, whereas the selection of the domain for can is not constrained except that it be consistent.

Footnotes

1. Notice that the sentence 'John can/could not be sick' does not denote that John's being sick is a logical impossibility in the normal sense of the word.

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THE SUBJUNCTIVE IN SPANISH

J. Miguel Solano

Abstract: The various analyses for the subjunctive in Spanish that have been proposed can be classified into two major categories: syntactic and semantic. Syntactic analyses consist mainly of classifications of instances in which the subjunctive must be used. Semantic analyses try to give the underlying principle(s) that seem to govern the use of the subjunctive in Spanish. In this paper two examples of each major category are discussed, and a new semantic account in terms of conventional implicature is proposed. A single idea seems to account for most of the cases in which the subjunctive is used in Spanish.

Introduction

A native speaker of Spanish without a sophisticated knowledge of the subjunctive mood will, when asked about his criterion for choosing a subjunctive form of a verb instead of an indicative one, be able to say whether a sentence is right or wrong, but usually not be able to explain why. For the teacher of Spanish as a second or foreign language, whether or not he is a native speaker, it can be very helpful to have a good understanding of the subjunctive mood, because he will be in a better position to help his students than a teacher without such knowledge.

According to Spanish teachers the subjunctive is one of the most difficult parts of Spanish. Ever since Spanish became a target language for English-speaking students, the word "subjunctive" has caused "fear and trepidation in the hearts of the learners" (Shawl 1975, p. 323), and many learners consider it "the ghastly part of the grammar" (McKay 1976, p. 4).

In this paper I will discuss the different uses of the subjunctive in Spanish, and what they roughly correspond to in English. For this purpose I will examine various types of analyses that have been proposed for the subjunctive in order to determine their degree of success in describing its meaning and usages. I will offer an entirely different analysis that seems to account for the facts better than the analyses that have been proposed so far.

The subjunctive in English seems to be disappearing. The attitudes English speakers have toward this mood are contributing to its extinction: it is considered formal and pedantic, and teachers discourage its use by labeling it pretentious and artificial (McKay 1976, p. 11).

The subjunctive in Spanish, however, is an essential part of the grammar; it is used in all types of situations, and people do not have special attitudes that discourage its use; on the contrary, mastery of the subjunctive is one of the signs of good control of the language.

Descriptions of the subjunctive that various authors have given can be divided into two major categories: syntactic and semantic. The former consists mainly of classifications to help the learner memorize those cases

Kansas Working Papers in Linguistics, Vol. 5, No. 1, pp. 71 - 97

in which the subjunctive has to be used; the latter attempts to account for the use of the subjunctive in terms of semantic concepts such as presupposition and assertion.

Syntactic Descriptions

McKay's Account McKay intends to enable the student to grasp the sense and to appreciate the use of the subjunctive in Spanish (McKay 1976, p. 4). He gives three characteristics of the subjunctive in Spanish: (1) It can be used to reflect the world of emotional responses, the joys, the melancholy, and the desires of everyday living, the doubts, judgments, suppositions, and contingencies of the human condition. (2) Its use is determined by the speaker's attitude. It reflects the speaker's feelings or opinions rather than his tested assurances. (3) It usually appears in subordinated constructions, a characteristic which is suggested by the name itself-- the name subjunctive comes from Latin "subjunctus" 'yoked under' (McKay, p. 11). However, the dominating verb does not always appear on the surface.

(1) Que lo HAGA Juan. 'Let Juan do it.'

The verb HAGA (subjunctive forms will be written in capital letters throughout the paper) can be thought of as embedded into a main clause as in

(2) Quiero que lo HAGA Juan. 'I want Juan to do it.'
(I-want that it DO Juan) (Lit.)

The list of situations that call for the subjunctive includes, according to McKay: commands, impersonal expressions, sentences that express emotion, persuasion, volition, denial, disbelief, uncertainty, indefiniteness, conditions contrary to fact, softened requests, polite statements, and sentences that include expressions like quizás 'perhaps', tal vez 'maybe', ojalá 'I wish, I hope, if only', and como si 'as if'.

Commands: It is true that commands are most frequently expressed in the subjunctive, but to say that commands are expressed in the subjunctive mood and nothing more represents an oversimplification. There are actually two other ways of expressing commands: one that uses an indicative form, and another that uses the imperative form of the verb. Although the imperative mood may be considered an intensification of the subjunctive mood (Gili-Gaya 1973, p. 142), there are surface differences that distinguish them, as (4-6) indicate.

(3) Viene tempranito, oye? 'Come early, do you hear?'
(4) Ven! 'Come!' (Imperative familiar singular for speakers who use tu 'you')
(5) Vení! 'Come!' (Imperative familiar singular for speakers who use vos 'you' (my case))
(6) VENGA! 'Come!' (Subjunctive form used with usted 'you' (singular formal)).

The plural form corresponding to these last three examples is the subjunctive form illustrated by (7), because the imperative venid (vosotros) 'Come!' is considered very formal, and is almost never used. Gili-Gaya (1973, p. 142) also recognizes that the subjunctive form predominates in several countries of Latin America.

(7) VENGAN! 'Come!'

Terrel and Hooper (1974, p. 486) consider (3) a formal exception. To me it indicates a reminder or a type of persuasion used in a very familiar style.

Indirect command: This type of sentence refers to commands embedded in a main clause.

(8) DÍGALE que REGRESE a las 6. 'Tell him to return at 6.'
(tell-him that return at 6)

(9) Le mandé que se AFEITARA. 'I ordered him to shave himself.'

Sometimes the main clause is omitted, and the speaker's will is expressed in the subjunctive.

(10) Que nadie se ATREVA a decirme nada!
'Don't anybody dare to say anything to me.'

The constant repetition of this type of indirect command has resulted in idiomatic expressions like

(11) (Que) VIVA el Presidente. 'Long live the President.'

I think expressions of the type illustrated by (11) are more closely related to sentences indicating desire than to indirect commands. Que 'that' is optionally deletable in (11) but not in (10).

Impersonal expressions: With sentences that contain impersonal expressions, the verb in the subordinate clause will be in the subjunctive as long as the subject of the embedded clause is not correferential with that of the main clause.

(12) Es mejor que se QUEDE callado. 'You'd better shut up.'

Other impersonal expressions include mas vale 'It's better', parece 'It seems', puede ser 'It may be', and vale la pena 'It's worthwhile'. When the sentence is completely impersonal, an infinitive is used.

(13) Vale la pena ir. 'It is worthwhile to go.'

Emotion: Expressions in the main clause that have to do with strong feeling like anger, fear, desire, hope, joy, pleasure, regret, sorrow, surprise, etc. call for the subjunctive if there is no correferentiality of the two subjects. The idea involved in this case is that a sentiment expressed by the speaker concerns the actions of another. If there is no change of subject involved, an infinitive is used (but see (44) and (46) below).

(14) No me gusta que me CUENTE sus problemas. 'I don't like her telling me her problems.'

(15) Me gusta contarle mis problemas. 'I like to tell her my problems.'

Doubt: Strong doubt as opposed to weak doubt is essential for using the subjunctive in the embedded clause. If the speaker wants to convey that his doubt is minimal, he may use the indicative. In a similar manner, with verbs of denial or disbelief, it is the speaker's attitude rather than the verb itself that determines the mood of the verb in the embedded clause.

(16) Dudo que me VAYA a hacer falta. 'I doubt that I'll miss her.'

(17) Dudás que está lloviendo? Asomate a la ventana! 'Do you doubt that it is raining? Look out the window!

(18) No creo que Juan SEPA tanto. 'I don't think Juan knows that much.'

(19) No cree que Juan lo sabe. (Ind.) He does not believe that Juan knows it.'

(20) El juez negó que los abogados ESTUVIERAN involucrados en el asunto. 'The judge denied that the lawyers were involved in that scandal.'

The explanation in terms of weak versus strong doubt is not entirely satisfactory because for me, (17) does not involve doubt at all, at least for the speaker. In the comparison of my analysis with the others presented in this paper, I will offer a more convincing explanation (see page 93).

Persuasion: Verbs that express persuasion, permission, advice, inducement, and request call for the subjunctive if there is a change of subject.

(21) Me pidió que VINIERA. 'He asked me to come.'
(22) No le permití que SALIERA. 'I did not allow him to leave.'
(23) Me aconsejó que FUERA. 'He advised me to go.'
(24) Le propuse que nos CASÁRAMOS. 'I proposed marriage to her.'
(her I-proposed that we get-married)

Volition: Verbs that imply an act of volition, choosing, or deciding are followed by a verb in the subjunctive if there is a change of subject.

(25) Prefiero que nos QUEDEMOS aquí. 'I prefer that we remain here.'
(26) Insisten en que SEAMOS discretos. 'They insist that we be discrete.'

Uncertainty: A number of adverbial conjunctions in Spanish, by their very meaning, convey a sense of uncertainty or unreality about the action of the subordinate clause. These conjunctions refer to condition, manner, purpose, time, and concession.

(27) Le permite al niño que JUEGUE con cosas peligrosas con tal de que la DEJE en paz. 'She lets the child play with dangerous things in order that he leave her alone.'
(28) Haré el trabajo como usted me lo {(a) ORDENE. / (b) ordena.} (a) 'I'll do the work whatever way you order me.' (b) 'I'll do the work as you say.'
(29) Nos vamos en cuanto COMAMOS. 'We'll leave as soon as we eat.'
(30) Aunque SEA fea, es una buena muchacha. 'Even though she may be homely, she's a nice girl.'

In (29) and (30) it is also possible to use the indicative.

Indefiniteness: When a subordinate clause refers back to someone or something imprecise, indefinite, undetermined, or nonexistent, the subjunctive is required.

(31) Hay alguien que quiere ofrecerse como voluntario. 'There is someone that wants to volunteer.'
(32) Hay alguien que QUIERA ofrecerse como voluntario? 'Is there anyone who might want to volunteer?'
(33) No hay nadie que QUIERA ofrecerse como voluntario. 'There isn't anyone willing to volunteer.
(34) Busco un abrigo que me QUEDE bien. 'I'm looking for a coat that might fit me.'
(35) Busco el abrigo que me queda bien. 'I'm looking for the coat that fits me.'

Supposedly (35) refers to something that exists and (34) refers to something that can be thought of as nonexistent, at least at the time of speaking but (36) would contradict this.

(36) Busco un abrigo que me queda bien. 'I'm looking for a coat that fits me.'

Sentence (36) indicates that the coat exists, but it is not specified. The explanation for the choice of mood in terms of definiteness versus indefiniteness does not work either, as the following example also shows.

(37) Me llevo el abrigo que me QUEDE bien. 'I'll take whatever coat that might fit me.'

McKay's explanation in terms of definiteness versus indefiniteness is partly right. What must be recognized is that Spanish marks a distinction between definite versus indefinite by the article, and also a distinction between specific versus non-specific by the mood of the verb (specific is indicated by the indicative mood, and non-specific by the subjunctive). Examples (34-37) show a neat symmetry of this phenomenon.

definite	specific		
-	-	(33)	(un Subj.)
+	+	(34)	(el Ind.)
-	+	(35)	(un Ind.)
+	-	(36)	(el Subj.)

Softened requests and polite statements: With auxiliary verbs like deber 'must', poder 'can', and querer 'to want' the past subjunctive can be used to soften a statement with politeness.

(38) QUISIÉRAMOS proceder contra ella. 'We would like to sue her.'

(39) Deberías seguir sus consejos. 'You should follow his advice.'

(40) Podrías ayudarme? 'Could you help me?'

The last two examples do not contain subjunctive forms according to the analysis of conditionals given below (p. 76).

Solé and Solé's View Solé and Solé (1977) go a little deeper into the analysis of the subjunctive in Spanish than McKay does. Not only do they give a nearly exhaustive list of situations in which the subjunctive is used, but they also try to give the underlying principles that seem to govern its use.

Causation of Behavior: According to Solé and Solé, the subjunctive is used when the governing notion is one of causation of behavior, i.e., when a speaker tries to influence the behavior of another to attain a desired result. A similar idea was expressed by McKay (page 72 above), but in this case the idea is more general and includes, under different titles, most of the cases mentioned by McKay. Closely related to this idea of causation of behavior is the notion of something being hypothetical. Predicate nominatives as in (41) (what McKay calls impersonal expressions, page 73 above) describe an event as hypothetical.

(41) Hay pocas posibilidades de que se RECUPERE. 'There is little possibility that he will get well.'

There must be a second subject different from the first one upon which the first can exercise influence. Otherwise an infinitive is used.

(42) Insistió en ir. 'He insisted on going.'

(43) Insistió en que VINIERAN. 'He insisted that they come.'

The notion of a change of subject makes sense for (42-43), but I don't think it makes sense for (41). Besides, there are cases in which it is possible to use a clause rather than an infinitive even if there is no change of subject:

(44) Dudo {que yo PUEDA venir / poder}. 'I doubt that I can come.'

Furthermore, as Solé and Solé point out (1977, p. 161) verbs of believing, thinking, and saying generally take clauses even if no change of subject is involved.

(45) Cree que está bien. 'He thinks he is all right.'

(46) Sé que no puedo conseguir eso. 'I know I can not get that.'

Sentences (45-46) also show that an embedded clause does not always have a verb in the subjunctive. When the verb conveys non-hypothetical information, the indicative mood is used.

Emotion and personal inclination: The subjunctive is also used when the governing notion is causation of emotion or when it describes personal inclination. Verbs which convey anger, pleasure, surprise, regret, forgiveness, hope, fear, etc., always take the subjunctive when they occur in an embedded clause (Solé and Solé, p. 168). There are numerous exceptions to this statement that will also be discussed below.

The most common occurrence of the subjunctive as a causative of emotion is in noun clauses of various functions: subject, object, adverbial. Subject clauses may be extraposed to the end of the sentence as in

(47) Me da envidia que todo le SALGA bién. 'It makes me envious that everything turns out all right for him.'

(48) Espero que ya HAYA llegado. 'I hope he has arrived already.'

(49) Siempre damos un paseo después de que cenamos.
'We always take a walk after eating.'

(50) Después de que COMAMOS daremos un paseo.
'We'll take a walk after we eat.'

The last two examples indicate that the choice of mood in adverbial clauses depends on the factual or hypothetical nature of the event. If the adverbial clause expresses finality or goal it takes the subjunctive because the result is hypothetical.

(51) Mañana vengo para que me AYUDES con esta tarea.
(tomorrow I-come so that me you-help with this task)
'I'll come tomorrow so that you can help me with this assignment.'

Conditional: Conditional sentences deserve a section of their own because they are closely related to the subjunctive, especially in English.

There is a controversy among Spanish grammarians on how to treat the conditional. Some authors include it among the forms of the indicative (Gili-Gaya, 1973), and still others consider it to be a transition between the two (Alonso, 1968, and De Val, 1966). De Val considers it to be closer to the subjunctive because of its meaning: both the conditional and the subjunctive are used to express eventuality, condition, and affectivity (p. 165).

The conditional formerly was treated as a separate mood in the grammar of the Spanish Royal Academy before its edition in 1973, in which it was included among the forms of the indicative mood. According to the 1973 grammar the conditional has a periphrastic origin: amaría 'would love' derives from amar hia (había) 'had to love' (había is an indicative form), and it expresses future action in relation to the past.

Perhaps it is important to realize that "conditional" refers to the part that is normally translated in English by would + Verb, and its

most frequent use is in the consequent clause of a conditional sentence.

(52) Si TUVIERA dinero compraría un carro.
('If I-had money I-would-buy a car.')

Gili-Gaya (1973, pp. 167-173) claims that his reasons for considering the conditional as one of the forms of the indicative are conclusive. As evidence he offers the following argument: equivalences between the forms -ría and -ra caused some authors to consider the conditional a subjunctive form. To convince oneself that there are no differences in mood that might separate the conditional from the other tenses of the indicative, all one has to do is use a verb of possibility, necessity or desire in a sentence such as

(53) Dijo que cantaría. 'He said that he would sing.'

as opposed to

(54) Le mandó que {CANTARA / CANTASE}. 'He ordered her to sing.'

The subordinate verb in (53) refers to future action with respect to the past. The embedded verbs in (53-54) are not interchangeable when dijo refers to a verb of saying.

The conditional also expresses probability referring to either the past or the future.

(55) Serían como las 10 p.m. (Probablemente eran las 10.)
(It-would-be about 10) 'It was probably 10 p.m.'

(56) Sería interesante oir lo que va a decir.
'It would be interesting to hear what he is going to say.'

We can express present probability with the future.

(57) Serán las seis. 'It's probably six o'clock.'
('it-will-be six')

Past possibility can be expressed with the future perfect.

(58) Habrán salido ya. 'They will have left already.'

With the conditional we can express what Gili-Gaya calls "imperfect possibility" (p. 168) referring to the past, the present, or the future, as shown in (55), (56) above, and (59) below.

(59) El Presidente Carter estaría dispuesto a hablar con Castro.
'President Carter would be willing to talk to Castro.'

(59) may mean that he is willing to do so right now. By using the conditional the speaker does not assert the truth of the statement. According to Gili-Gaya (footnote 6, p. 168) this limited use of the conditional represents a literal translation from English or French, which does not violate the normal uses of the conditional.

From the same meaning of probability or possibility is derived the concessive use of the conditional in Spanish.

(60) Sería fea de cara, pero tenía buenas piernas.
'She may have had an ugly face, but she had beautiful legs.'

The use of the conditional as an indicator of politeness or modesty derives from the imperfect aspect of había which entered its composition.

(61) Me gustaría conversar con usted. 'I would like to talk to you.'

With verbs like querer 'to want', deber 'must', and poder 'can', according to Gili-Gaya, the conditional, the preterite imperfect indicative, and the preterite imperfect subjunctive can be used without

changing the time relation.

(62) {Debería / DEBIERA / Debía} tener un poco de vergüenza.

'He should be a little ashamed.'

For me and for the people I consulted, debía has a slightly different meaning. It implies stronger obligation than debería and DEBIERA.

(63) {QUISIERA / Quería? / Querría??} que me ACOMPAÑARAS.

'I would like you to go with me.'

Instead of querría I use me gustaría 'I would like', and quería in this sentence means 'I wanted'. Therefore, for me, there may be a change of time involved in these forms. Both QUISIERA and querría may be used in response to the question "¿Qué se te ofrece?" 'What do you need?', but quería sounds more appropriate as a response to the question "¿Qué querías?" 'What did you want?'.

(64) Juan {podría / PUDIERA / ?podía} salir mejor en sus estudios.

'Juan could do better in his studies.'

In this case podía, in a sentence out of context such as (64), is immediately associated with past ability, rather than possibility.

The equivalence between -ra and -ría, which we notice in (62) - (64), is explained by the sense of doubt conveyed by both forms, the doubt expressed by the subjunctive form being stronger than the doubt expressed by the indicative form. A similar difference in degree of doubt is shown in

(65) Tal vez {a) TENGÁS[1] / b) tenés[1]} que trabajar. 'You might have to work.' / 'Maybe you have to work.'

in which the present indicative (vos tenés, 'you have') expresses a lesser degree of doubt.

These efforts to justify the inclusion of the conditional among the forms of the indicative may conflict with the traditional definitions of this mood. If the indicative also conveys doubt, it can no longer be considered the mood of "black and white, of fact, assertion, certainty" Sacks (1975, p. 97) or "reality" Royal Academy, (p. 476). In the discussion below we will find a satisfactory explanation for sentences such as (65).

The -ra form of the imperfect subjunctive replacing the conditional -ría in the consequent clause of a conditional sentence is felt to be archaic by Costa Rican speakers except in a few fixed expressions.

(66) Si TUVIERA dinero ?COMPRARA una casa. (archaic)

'If I had money, I would buy a house.'

(67) Aunque no {HUBIERA / HUBIESE} cielo yo te {AMARA / ?amaría}.

'Even if there were no heaven I would love you.'

In (67) just the opposite to (66) is true. The expected form in -ría sounds strange to me. The reason may be that (67) is part of a famous old prayer, and this fact may have contributed to the preservation of a

form which has changed in other contexts. One could also try to find an explanation in terms of different kinds of conditionals. Pollock (1976) talks about four kinds of conditionals: "simple", "even if", "necessitation", and "might be". It could be proposed that (67) is different because it belongs to the "even if" conditional, but (68) does not support this possibility.

(68) Aunque no {HUBIERA / HUBIESE} cielo yo me {portaría / ?PORTARA} bien.

'Even if there were no heaven I would behave.'

The conditional sometimes expresses a proposition in which the condition is not overtly expressed. A husband planning a future course of action with his wife might say

(69) Vos trabajarías, yo me quedaría en la casa y haría el oficio.

'You would work, I would stay home and do the housework.'

According to Gili-Gaya, the equivalence between -ra and -ría in the consequent clause can be explained easily if we keep in mind that -ra in that case is an indicative form which happens to have survived. As proof of this, Gili-Gaya mentions the failure of -se (a subjunctive form which has not shifted to another mood) to appear in that context (p. 171).

(70) Si {QUISIERA / QUISIESE} nos lo {diría / ?DIJERA / *DIJESE}.

'If he wanted he would tell us.'

In this analysis of conditional sentences we can see clearly that the conditional is generally used in the consequent, while the subjunctive is used in the antecedent. There can be a choice of mood in the consequent (according to the analysis given in this section), but in the antecedent only subjunctive forms may be used.

(71) Si {HUBIERAS / HUBIESES} llegado a tiempo te {HUBIÉRAMOS / HUBIÉSEMOS / ?habríamos} invitado a cenar.

'If you had come early we would have invited you to dinner.'

For me, the -ra form in the consequent of a simple conditional is not acceptable

(72) Si {HICIERA / HICIESE} buen tiempo {*SALIERA / saldría}.

'If the weather were nice, I would go out.'

But in the perfect conditional, the subjunctive form, even the -se form, sounds better than the conditional form (see (71) above). We can also observe in this example that -se can be used in the consequent clause. The grammar of the Royal Academy mentions (1973, p. 474, Note 5) that Cuervo (Note 99) explains this phenomenon as a case of parallelism. Just as -ra moved from the consequent to the antecedent, -se moved from the antecedent to the consequent.

Semantic Descriptions

Descriptions of the subjunctive like the ones presented in the section on syntactic descriptions can be useful for pedagogic purposes in the sense that the learner may associate the use of the subjunctive with

certain verbs or expressions. But the number of exceptions that can be found makes one look for a more satisfactory explanation. In this section, I will include three types of semantic descriptions: a) Rivero's in terms of presupposition, b) Terrel and Hooper's in terms of assertion and non-assertion, and c) mine in terms of conventional implicature.

Rivero's Account Rivero proposes a semantically based analysis of the subjunctive. She states that "there are verbs which do not determine the nature of their complementizer" (p. 305), but the choice of mood in the complement structure is dependent on semantic factors which are independent of the verb. These semantic factors (presuppositions) are best explained by the underlying structure attributed to the complement sentence itself.

(73) Ella no cree que Juan {a) VINIERA / b) vino}.

a) 'She doesn't think that Juan came.'
b) 'She doesn't believe that Juan came.'

With a verb in the subjunctive, the speaker of (73a) does not presuppose the truth of the complement: his attitude is neutral, he simply reports. With a verb in the indicative (73b), the speaker does presuppose that the complement is true. These presuppositions remain constant in questions.

(74) Cree usted que Juan {a) VINIERA / b) vino} ?

'Do you {a) think / b) believe} that Juan came?'

Rivero's statement that there are verbs which do not determine the nature of their complements may imply that there are also verbs that do determine the nature of their complements. I think this is the case as will be shown below.

Rivero also states that "when the verb is in the subjunctive there is no presupposition made by the speaker" (p. 307). This holds for (73), but not for

(75) Me duele que se HAYA muerto.
'I regret that he has died.'

In (75), it is presupposed that the person died, and we can see this in that the presupposition remains constant under negation, and cannot be contradicted.

(76) No me duele que se HAYA muerto.
'I don't regret that he has died.'

(77) *Me duele que se HAYA muerto, pero me acabo de enterar que todavía no se ha muerto. '*I regret that he has died, but I have just been informed that he hasn't died yet.'

(78) No creo que Juan HAYA llegado, pero posiblemente hoy terminó mas temprano. 'I don't think Juan has arrived, but possibly he finished earlier today.'

Verbs like comprender 'understand', parecer 'seem', admitir 'admit', alegrarse de 'be glad', confiar 'trust', desconfiar 'suspect', entender 'understand', esperar 'hope', sospechar 'suspect', estar de acuerdo 'agree', negar 'deny', suponer 'suppose', and temer 'be afraid' admit either mood in affirmative statements.

(79) Confío en que {a) ESTÉ / b) está} diciendo la verdad.

a) 'I trust that he's telling the truth.'
b) 'I'm confident that he's telling the truth.'

Rivero chooses to give only one gloss when there is a choice of mood assuming that the difference lies in the type of presupposition involved. I have decided to provide a different gloss for each mood whenever I can think of one.

Verbs like creer 'believe, think', contar 'tell', explicar 'explain', relatar 'narrate', decir 'say (as a verb of saying)', and opinar 'be of the opinion' do not allow the subjunctive in affirmative statements.

(80) Creo que {a) está / b) *ESTÉ} lloviendo. 'I think it's raining.'

I believe the reason is that if these verbs are used, it is because the speaker has some evidence for what s/he (he or she) is expressing. Otherwise s/he would not use them. Since the subjunctive, most of the time, expresses lack of evidence, it cannot be used with these verbs. However, Bolinger (1974, p. 465) says that creer 'believe, think' can be used in the subjunctive in statements involving a negative or an affirmative embedded clause.[3] The examples Bolinger cites are the following:

(81) Creo, señor Gordon, que la prensa de su país no ESTÉ informada correctamente respecto al Dr. Fidel Castro.
'I believe, Mr. Gordon, that the press in your country is not correctly informed about Dr. Fidel Castro.'

(82) Qué padres! Le digo a usted, señor, que porque no he conocido otros creo que SEAN mis padres. 'What parents! I'm telling you, Sir, that because I have not known others I believe they are my parents.'

It is possible to come up with an explanation for examples like these if one chooses to accept them. Certainly they do not represent the way people normally talk. As with many other cases, a sentence that sounds awkward initially can be made to sound acceptable by providing an appropriate context.

Bolinger's statement that "Spanish has no rules whereby the modes can be determined through features of dubitativeness, optativeness, negation, or the like" (p. 465) gives the impression that it is possible to use almost any verb in any mood depending on the intentions of the speaker. Although in many cases the intentions of the speaker determine the choice of mood in the embedded clause, there are also clear cases in which only one mood is possible: (76) only subjunctive, and (80) only indicative.

Syntactic differences between the two groups of verbs: Complements which involve a positive presupposition and which are formally marked by a verb in the indicative block processes like Negative Transportation, Negative Incorporation, and Subject Raising. An example of the first transformation is given below.

(83) a) Cree que no es bonita. 'She believes she isn't pretty.'
b) No cree que SEA bonita. 'She doesn't believe that she's pretty.'
c) No cree que es bonita. 'She doesn't believe that she is pretty.'

These sentences might indicate that Negative Transportation has taken place in (b and c). However, by using arguments involving negative polarity (palabra de 'a word', gota de 'a drop of', en absoluto 'at all', and hasta 'until') we can see that the indicative and the subjunctive are not related as simply as the transformational account indicates. Consider the following.

(84) a) El cree que no sabes nada en absoluto.
'He believes that you don't know anything at all.'
b) El no cree que SEPAS nada.
'He doesn't believe that you know anything.'
c) *El no cree que sabes nada en absoluto.
'He doesn't believe that you know anything at all.'

In (84b) the negation supposedly originates in the embedded structure and is later raised by Negative Transportation. As the ungrammaticality of (84c) shows, the rule involved is not a mere raising transformation; a change of mood is also involved.

(85) a) No cree que SEA bonita. 'She doesn't believe that she is pretty.'
b) No cree que es bonita. (Indicative)
c) No cree ser bonita. (Infinitive)

Equi-NP Deletion has applied in (85c), but which would be more likely the underlying structure, (84a) or (84b)? According to Rivero we can also test this by using negative polarity expressions.

(86) a) No cree que SEA bonita en absoluto.
'She doesn't believe that she's pretty at all.'
b) *No cree que es bonita en absoluto. (Ind.)
c) No cree ser bonita en absoluto. (Inf.)

Since (86 a and c) are grammatical, and (86b) is not, Rivero concludes that (86c) is related to (86a) rather than to (86b).

Semantic differences between the two groups of verbs: There are also semantic factors that differentiate both types of complementizers.

(87) No crees que él {a) SEA / b) es} el mejor?
'Don't you believe that he {a) might be / b) is} the best?'

The glosses that Rivero (p. 320) gives for (87) are provided below.

(87) a) 'Is it true that your opinion happens to be that he is not the best?'
(87) b) 'I believe that he is the best, don't you agree with me?'

In (87b) the speaker presupposes that the complement clause is true, while in (87a) s/he remains neutral.

The difference in presupposition can be seen clearly in (88) - (89).

(88) Los que ESTEN aburridos, si es que hay alguien, pueden irse.
'Those who are bored, in the event there are any, may leave.'
(89) *Los que están aburridos, si es que hay alguien, pueden irse. (Indicative)

I proposed a difference to a few English native speakers without a sophisticated knowledge of the language, using 'might be' for (88) and 'are' for (89) hoping to find a difference similar to that expressed by the two forms in Spanish, but it did not work. Both sentences were considered acceptable, a fact which indicates that English has neutralized

indicative and subjunctive in this case as in many other places. In Spanish, when a negative quantifier modifies a noun, the only possible mood in the relative clause is the subjunctive because if something is true, its existence cannot be negated (Rivero, p. 322).

(90) Nadie que {(a) ESTE / (b) *está} en sus cinco sentidos diría eso.
('nobody who be (subj) in his five senses say-would that)(Lit)

Are we dealing with a case of homonymy?: Homonymy refers to multiple ambiguity of phonological words (Kempson, 1977, p. 80). Rivero considers the possibility of proposing two lexical entries V_1 and V_2 for those verbs that may be followed by either mood. In this case the difference would be attributed to the matrix verb and not to the embedded sentence itself. An objection indicated by Rivero is that none of the verbs discussed in her paper can be clearly attributed to two different syntactic or semantic groups. There are some verbs that might make one consider the possibility of two lexical items. Semantically decir 'to tell' can be classified as a verb of saying or as a verb of command, and syntactically it can take either mood in the complement

(91) Le digo que VENGA. 'I'm telling you to come.'
(92) Le digo que viene. 'I'm telling you he's coming.'

The verb in (91) is a verb of command similar to the verb in (93).

(93) Le ordeno que VENGA. 'I order you to come.'

When the verb in the embedded clause is in the subjunctive, the matrix cannot have a first person subject (Rivero, p. 323). Perhaps Rivero refers to a first person indirect object as in

(94) *(Yo) me {(a) digo / (b) ordeno} que CANTE yo.
'I {(a) tell / (b) order} myself to sing.'

On the other hand, the verb in (95) is not subjected to the same restrictions because it is a verb of reporting.

(95) (Yo) me digo a mi mismo que (yo) estudio.
'I tell myself that I study.'

The different readings and their corresponding syntactic behavior would lead us to propose two lexical items decir 'tell /say' (Rivero, p. 324).

Another verb that presents similar behavior is sentir 'feel, be sorry'.

(96) Siento que se desmaya. 'I feel (notice) that she's fainting.'
(97) Siento que se DESMAYE. 'I'm sorry that she's fainting.'

Rivero considers that decir 'tell, order' and sentir 'feel, regret' belong to a reduced group of verbs for which the question of whether we are dealing with one or two verbs remains open. For Rivero, the majority of the verbs that she discusses do not behave like decir and sentir. There is some syntactic evidence for not assuming that the mood of the embedded verb is determined by the verb of the matrix sentence (p. 305). Lexical items with different readings cannot be deleted under mere identity conditions.[4] If a verb can be followed by either the subjunctive or the indicative and we can delete the second occurrence of the matrix verb, we can safely conclude that we are dealing with a single lexical item. The difference in mood cannot be attributed to the matrix verb, but rather

to a difference in presupposition (Rivero, p. 326). That is exactly the case with verbs like creer 'believe' and parecer 'seem'.

(98) No cree que Juan va a venir ni cree que VAYA a resolver el problema. 'She doesn't believe that Juan is going to come nor does she think that he is going to solve the problem.'

(99) No cree que Juan va a venir ni que VAYA a resolver el problema. (with deletion of the second matrix verb)

In order to test a few more verbs to determine whether we are dealing with one or two lexical items, it is important to add some comments by Kempson (1977) about the ambiguity test: Anaphoric processes (e.g., do too) require identity of meaning. If it is not possible to have crossed interpretations between two readings, we can conclude that the word is ambiguous, and therefore we should postulate two lexical items; otherwise we are dealing with a case of vagueness rather than ambiguity. The example that Kempson (p. 30) gives illustrates this reasoning clearly.

(100)I saw her duck and Bill did too.

This example can only mean that both persons either saw a duck or that both saw a woman quickly lower her head. It cannot mean, for example, that I saw a duck, and Bill saw her lower her head quickly.

By applying the ambiguity test, we can see that at least in the case of sentir 'feel, be sorry' we have a case of ambiguity.

(101) Siento que está perdiendo fuerza y siento que se está desmayando. 'I feel that she's losing strength and I feel that she is fainting.'

(102) Siento que está perdiendo fuerza y que se está desmayando.

(103) Siento que se DESMAYE y siento que se GOLPEE. 'I'm sorry that she should faint and I'm sorry that she should hurt herself.'

(104) Siento que se DESMAYE y que se GOLPEE.

Whenever we have identity of form and identity of meaning deletion can take place, but when no such identity exists deletion cannot take place.

(105) *Siento que se desmaya y que se GOLPEE.
'*I feel that she is fainting and that she should hurt herself.'

The following two cases involving admitir 'admit' and parecer 'seem' are not so clear. In the case of admitir there is identity of form, but not identity of meaning.

(106) Admitió que VINIERA de noche y admitió que la MATARA.
'He$_1$ allowed him$_2$ to come at night and he$_1$ allowed him$_2$ to kill her.'

(107) Admitió que VINIERA de noche y que la MATARA.

Similarly

(108) Admitió que vino de noche y la mató. 'He admitted having come at night and having killed her.

derives from the deletion of "admitió que" in the second conjunct which was possible because there was identity of form and of meaning, but (109) is not possible.

(109) *Admitió que [a) VINIERA / b) vino] y que la [a) mató / b) MATARA].

([ ] are intended to mean "read across").

In the case of parecer 'seem' apparently we can have crossed interpretations (see (113) below) between the two readings. As (110-111)

show, when the verbs are in the same mood, there is no problem in conjoining the two sentences.

(110) A la enfermera le parece que el paciente está muy grave y a mi también me parece que está muy grave. 'It seems to the nurse that the patient is very sick, and it seems to me that he is very sick, too.'

By a Gapping Transformation we can get (111) from (110)

(111) A la enfermera le parece que el paciente está muy grave y a mi también.

Similarly, we can obtain (112) by combining two complex sentences that contain a verb in the subjunctive in the embedded clause, and deleting the second occurrence of the same verb.

(112) A la enfermera le parece lógico que el paciente ESTÉ tan grave y a mi también. 'It seems logical to the nurse and to me that the patient should be so sick.'

Since it is possible to have crossed interpretations between (111) and (112) as in (113), we can conclude that parecer 'seem' is not ambiguous but unspecified.

(113) A la enfermera le parece que el paciente está muy grave y a mi me parece lógico (que lo ESTÉ).

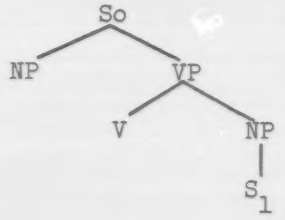
But (113) can only be interpreted as deriving from another deletion of ser 'be' as in

(114) A la enfermera le parece que el paciente está muy grave y a mi me parece (que es) lógico (que lo ESTÉ).
'It seems to the nurse that the patient is very sick, and it seems to me (that it is) logical (that he should be).'

Therefore, according to my analysis parecer 'seem' can be followed by the subjunctive in affirmative statements only as a result of a transformation that deletes ser 'be'.

I feel that the theory of homophonous lexical items deserves to be investigated more thoroughly. It is possible that we simply have not found the right tests. I think we have a good start in the few examples discussed in this section.

If the difference in mood can not always be attributed to different matrix verbs, there must be another explanation. Rivero considers that the difference can be found in the underlying form of the sentences. Semantically the subjunctive is a report of the opinion of a person, and no presupposition is involved. Syntactically the structural description of a complex sentence with a verb in the subjunctive has the following Phrase Marker (Rivero, p. 332).



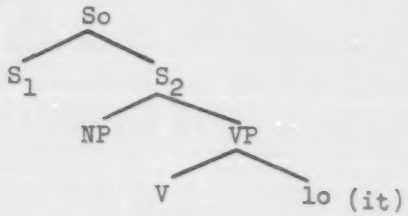
This structure can undergo Negative Transportation, Subject Raising, Equi-NP Deletion, and Negative Incorporation, and is subject to tense

restrictions as can be expected from a clause governed by the matrix verb.

The underlying structure of an indicative complement is more complicated. Semantically, it involves a presupposition which is not claimed by the subject of the matrix verb, but is made by somebody else, who is not always explicitly mentioned. Syntactically it can not undergo the transformations mentioned above, and it is not subject to tense restrictions. All of these facts can be accounted for by assuming that the indicative complement originates as a conjunct (Rivero, p. 332). Thus a sentence like

(115) Admite que el doctor vino. 'He admits that the doctor came.'
derives from

(116) El doctor vino. Lo admite. 'The doctor came. He admits it.'
and has the following P-Marker



Terrel and Hooper's Analysis According to the semantic analysis presented by Terrel and Hooper (1974), the use of subjunctive or indicative forms corresponds directly to certain basic semantic factors such as truth value, presupposition, assertion, and anticipation. Rivero's analysis in terms of presupposition agrees with this view, but her entire analysis, according to Terrel and Hooper, is syntactic since she is concerned with the syntactic origin of both indicative and subjunctive embedded clauses (p. 494, footnote 3).

According to Terrel and Hooper's semantically-based analysis, when a speaker wants to convey some information about the truth of a proposition s/he chooses her/his syntactic structures accordingly. The mood of the embedded verb can be freely chosen, and thus carries meaning. Using the notions of presupposition and assertion, Terrel and Hooper classify sentences into 6 types according to the different attitudes which the speaker can adopt (p. 488).

SEMANTIC NOTION	TYPE	MOOD
ASSERTION	1. Assertion	Indicative
	2. Report	Ind.
PRESUPPOSITION	3. Mental Act	Ind.
	4. Comment	Subjunctive
NEITHER	5. Doubt	Subj.
	6. Imperative	Subj.

The notions of presupposition and assertion are important for explaining embedded clauses. When the complement of a construction is presupposed to be true, the truth value remains, even if the sentence

is negated (Kiparsky and Kiparsky, 1971, p. 351).

(117) Me alegra que la campaña HAYA terminado. 'I'm glad that the campaign is over.'

(118) No me alegra que la campaña HAYA terminado. 'I'm not happy that the campaign is over.'

In both cases the speaker presupposes the complement to be true. Assertion is different from presupposition in this regard. The negation of an assertion affects the truth value of the embedded clause

(119) Es cierto que vino. 'It's true that he came.'

(120) No es cierto que VINIERA. 'It isn't true that he came.'

Another difference between presupposition and assertion concerns the use of the phrase 'the fact that'. Complements which are presupposed can be introduced by 'the fact that', but those which are asserted can not (Kiparsky and Kiparsky, p. 347).

(121) El hecho de que la campaña HAYA terminado no tiene importancia. 'The fact that the campaign is over is not important.'

(122) *Dudo el hecho de que son las 10. '*I doubt the fact that it is 10.'

The examples above show that something cannot be both asserted and presupposed at the same time.

The examples that follow illustrate the different attitudes that a speaker can adopt.

Assertion: A speaker may qualify an assertion by embedding it in an assertive matrix sentence, in which case we obtain an indirect assertion.

(123) Me parece que él puede hacerlo. 'It seems to me that he can do it.'

Report: Another kind of indirect assertion consists of a cited assertion. Verbs like decir 'tell', leer 'read', contestar 'answer', and escribir 'write' simply describe the way in which the "intelligence" is acquired (Bolinger, 1974, p. 464).

(124) Leí que había tenido un accidente.
'I read that he had had an accident.'

Since the matrix phrase merely tells how the assertion was conveyed, or not conveyed in the case of a negative sentence, the negation does not deny the assertion.

(125) No me contó que había tenido un accidente.
'He didn't tell me that he had had an accident.'

This example expresses that there was indeed an accident. If the speaker does not wish to make an assertion he can use an infinitive, as in

(126) No mencionó haber tenido ningun accidente.
'He didn't mention having had any accident.'

Mental Act: The first type of presupposed complement describes a mental act. Verbs like darse cuenta 'realize' and tomar en consideración 'take into consideration' describe a mental act.

(127) El tomó en cuenta que ella estaba embarazada.
'He took into account the fact that she was pregnant.'

Comment: The second type of presupposed complement refers to a comment. A speaker may make various types of comments about propositions. There can be value judgements and subjective comments.

(128) Es una lástima que ESTÉ lloviendo.
'It's too bad that it is raining.'

(129) Me alegro de que el niño ya ESTÉ entrenado.
'I'm glad that the child is already trained.'

In both cases the proposition is presupposed to be true, but it is not asserted.

Doubt: Doubt represents one type of non-assertion

(130) Es posible que ya HAYA terminado.
'It's possible that he has already finished.'

Imperative: Imperatives represent another type of non-assertion. In this case the choice of mood is clear. Since imperative sentences are not assertions, we can not expect the indicative, except in the familiar positive command which Terrel and Hooper (cf. p.72 above) regard as an exception (p. 486).

Imperatives may also be qualified by embedding them into matrices of volition, suasion, or influence.

(131) Quiero que SEPAS que no hay por qué preocuparse.
'I want you to know that there is nothing to worry about.'

Syntactic differences among these classes: Imperatives are differentiated from the other types of sentences discussed by Terrel and Hooper in their tense restrictions. There are tense restrictions after imperatives but not after the others.

(132) Quiero que me lo TRAIGA. 'I want you to bring it to me.'
(I-want that me it you-bring)

(133) Quiero que me lo { a) *trae } (Pres. Ind.)
{ b) *trajo } (Past Ind.)
{ c) *TRAJERA } (Past Subj.)

Sentences with presupposed complements are syntactically differentiated from the other types by the factive processes discussed by Kiparsky and Kiparsky (cf. p.87 above).

(134) Me alegra el hecho de que ESTÉ bien. 'I'm glad about the fact that he's O.K.'

(135) *Quiero el hecho de que se PORTE bien. '*I want the fact that you behave.'

(136) Quiero que se PORTE bien. 'I want you to behave.'

Assertive matrices become dubitative under negation and vice versa. The change in mood corresponds to a change in meaning.

(137) Creo que ella lo leyó. 'I think she read it.'

(138) No creo que lo LEYERA. 'I don't think she read it.'

(139) Dudo que SEA inteligente. 'I doubt that she is intelligent.'

(140) No dudo que es inteligente. 'I don't doubt that she's intelligent.'

Terrel and Hooper (p. 490) summarize these and other differences in Chart I (shown overleaf).

Ambiguous sentences: There are matrices (main verbs) with two readings, and under each reading they fall into a different class. Furthermore, their syntactic behavior obeys the constraints of the class to which they belong. This might be another argument for proposing different lexical items which happen to be homophonous. To the examples mentioned above (pp. 84-85), we can add the following.

(141) Insisto en que no vienen. 'I insist that they are not coming.'

(142) Insisto en que no VENGAN. 'I insist on their not coming.'

CHART I

SEMANTIC CLASSIFICATION OF MATRICES AND SENTENCES

CRITERIA	BELIEF	REPORT	MENTAL ACT	COMMENT	DOUBT	COMMAND
Semantic						
ASSERTED	+	+	-	-	-	-
PRESUPPOSED	-	-	+	+	-	-
Syntactic						
INDICATIVE	+	+	+	-	-	-
CONSTANT UNDER NEGATION	-	+	+	+	-	+
USES el hecho de	-	-	+	+	-	-
TENSE RESTRICTIONS	-	-	-	-	-	+
RESTRICTIONS WITH 1st. Sing Neg	-	-	+	-	-	-

(Terrel and Hooper, p. 490)

(143) is intended to be a report and (142) a command. Tense restrictions apply to (142) but not to (141).

(141a) Insisto en que no {vinieron / vendrán / vendrían}. (Past Ind. / Fut. Ind. / Cond. Ind.)

(142a) *Insisto en que no VINIERAN. (Imperfect Subj.)

(142) does not even permit another subjunctive form.

The verb sentir 'feel, be sorry' (see also p. 84 above) can be assigned to different classes. As a verb of comment, it can take el hecho de, but not as a verb of reporting.

(143) Siento el hecho que se DESMAYE. 'I'm sorry about the fact that he faints.'

(144) *Siento el hecho que se desmaya. '*I feel the fact that he faints.'

No creer 'believe (Neg)' (cf. p. 82 above) can be used as a verb of assertion and as a verb of doubt.

Ver 'to see' can be used to report or to assert the truth of a statement.

(145) Vi que el niño estaba en el piso. 'I saw that the baby was on the floor.'

(146) Vi que había estudiado mucho y le puse una A. 'I saw that he had studied a lot and gave him an A.'

If these sentences are negated, (145) remains a report, but (146) changes into a dubitative sentence which requires the subjunctive.

(147) No vi que el niño estaba en el piso y me le paré en la mano. 'I didn't see that the baby was on the floor and I stepped on his hand.'

(148) No vi que HUBIERA estudiado mucho y por eso le puse una C. 'I didn't see that he had studied much, and because of that I gave him a C.

I think ver 'to see' can also be used as a verb of command.

(149) Viste que la puerta ESTUVIERA cerrada? 'Did you make sure that the door was closed?'

If the indicative form (estaba) is used, the question would ask for confirmation of a report.

Some matrices can be used either as subjective comments or as imperatives. In this case it is difficult to see the difference since the subjunctive is used in both; however we can see the difference if we use 'el hecho de', which can be used only if the sentence is a comment.

(150) (El hecho de) que te QUEDÉS en la casa los domingos es muy importante porque así podés pasar algún tiempo con tu familia. 'The fact that you stay home on Sundays is very important because in that way you can spend some time with your family.'

(151) Es muy importante que te QUEDÉS en la casa el domingo porque todavía estás enfermo. 'It is very important for you to stay home next Sunday because you are still sick.'

Finally, the matrix es imposible 'it's impossible' can be compatible with doubt or with command.

(152) Es imposible que REGRESÉS esta noche (para cuando la reunión TERMINE ya no habrá vuelos). 'It's impossible for you to return tonight (by the time the meeting is over there won't be any flights).'

(153) Es imposible que REGRESÉS esta noche (el contrato dice que tenés que pasar la noche allá). 'It's impossible for you to return tonight; (the contract says that you have to spend the night there).'

Analysis in terms of Conventional Implicature It is possible to arrive at a different and perhaps more satisfactory account if we apply Grice's concept of conventional implicature (1975), as applied by Karttunen and Peters (1979).

There are three characteristics that identify conventional implicatures: (1) They are detachable--i.e., there is another way of saying the same thing without giving rise to the implicature; (2) They depend not on how something is said, but rather on what is said--i.e., they depend on the meaning of the words themselves rather than on the context in which they are used; and (3) They are not cancellable--i.e., a speaker cannot deny something that is conventionally implicated without being contradictory. We can illustrate these characteristics with an example given by Grice himself (p. 66).

(154) He's an Englishman; therefore he is brave.

The conclusion of being brave follows from his being an Englishman, but the speaker could have detached this conclusion by saying

(155) He is an Englishman, and he is brave.

The implicature arises solely because of the conventional meaning of the word "therefore", and cannot be cancelled, as (156) shows:

(156) *He is an Englishman; therefore he is brave, but we know that Englishmen are cowards.

Using this concept we can say that the indicative mood is used when the proposition (p) is believed to be true or false, and the subjunctive, in contrast, is used when the proposition is not believed to be true or false; or as it might be stated in more formal terms (extending Karttunen and Peters, p. 8):

'Indicative p conventionally implicates that it is epistemically possible that p.
Subjunctive p conventionally implicates that it is epistemically possible that not p.

It is important to observe that the subjunctive implies that it is possible that not p--i.e., it does not exclude the possibility of p being true. This is important for the analysis of conditional sentences which do not as a rule presuppose that their antecedent is false (Karttunen and Peters, p. 5), as it has been commonly believed (Lakoff, 1970). A sentence like (157) is clearly counterfactual, but not (158).

(157) Si HUBIERAS estado aquí, nada HUBIERA pasado.
'If you had been here, nothing would have happened.'

(158) Si QUISIERAS te pagarían enseguida.
'If you wanted they would pay you right away.'

The difference between the subjunctive and the indicative would be very clear if we could say that the indicative is used when the speaker is 100% sure that something is true or that something is false, while the subjunctive is used in all other cases, as we can see in the following examples, which represent modified versions of examples (34) - (37) above.

(159) Está buscando {el / un} abrigo que le queda.
'He's looking for {the / a} coat that fits him.'

(160) Está buscando {el / un} abrigo que no le queda para regalarlo.
'He's looking for {the / a} coat that does not fit him in order to give it away.'

(161) No está buscando {el / un} abrigo que le queda, sino un pantalón.
'He's not looking for {the / a} coat that fits him, but for a pair of pants.'

(162) Está buscando un abrigo que le QUEDE. 'He's looking for a coat that will fit him.'

(163) Está buscando un abrigo que no le QUEDE para hacer un regalo.
(He's looking for a coat that not him fit (Subj) to make a present (Lit))

(164) El abrigo que me QUEDE me lo dejo.
(Lit: the coat that me fit (Subj) me-benefactive it I-keep)
(165) El abrigo que no me QUEDE lo boto. 'I'll throw away whatever coat that does not fit me.'

In (159-161) the speaker is 100% sure that there is such a coat, and that is why he uses the indicative. In (162-165) the speaker indicates that such a coat may or may not exist (he is not 100% sure), and therefore he uses the subjunctive. Examples (159-165) also indicate that Spanish makes an overt difference between the de re and the de dicto reading as these concepts are defined by Allwood et al. (1977, p. 115). De re readings are marked by the indicative, while de dicto readings are marked by the subjunctive. For verbs that can be followed by either mood in affirmative statements (see page 80 above), we need a different type of explanation. The choice of mood seems to be determined by a greater or lesser degree of certainty. What we need is something like the following.

```
0----------50----------100
  Subj (p)      Ind (p)
  Ind (¬p)      Subj (¬p)      (¬p) = not-p
```

Indicative (p) = chances of p being true = more than 50%.
Subjunctive (p) = chances of p being true = less than 50%.

(166) Confío en que ESTÉ diciendo la verdad. 'I trust that he's telling the truth.'
(167) Confío en que está diciendo la verdad. 'I am confident that he's telling the truth.'

For a reason that will be explained shortly, (168) sounds strange if a first person subject is used, even if the complement clause refers to a known fact. It is as though we were dealing with idiomatic expressions.

(168) Me alegro de que HAYÁS pasado el examen.
'I'm glad that you passed the exam.'

The attitude that the speaker adopts is also important in determining the use of the subjunctive. In (168) the speaker is simply commenting on the fact; he is not asserting it. This statement is supported by the fact that (168) is not normally used to inform but, rather, to comment on the information previously received. In other cases the speaker acts as if it were not the case that p. A person who is informed that somebody is saying that s/he is dishonest will probably say something like

(169) Me importa un comino lo que DIGA.
'I don't give a darn what he says.'

It may also be convenient to talk about two kinds of fact: bare fact[5] and interpreted fact. In (170) we are dealing with a bare fact. We are using the fact to inform, while in (171) we are dealing with an interpreted fact in the sense that we are merely commenting on the fact.

(170) Está buscando un abrigo que le queda.
'He's looking for a coat that fits him.'
(171) Me alegro de que le QUEDE el abrigo.
'I'm glad that the coat fits him.'

Therefore, in accounting for the use of the subjunctive in Spanish we not only have to consider the degree of certainty, but also how the speaker looks at the facts. It may be that p is true in the actual world, but the speaker looks at it from outside the actual world.

The fact that we can expand (82) and (172) indicates that what matters is the speaker's knowledge or belief, rather than the knowledge or belief of the subject of the sentence.

(172) Ella$_1$) cree que (ella$_1$) no es bonita, pero yo sí lo creo.
'She thinks that she's not beautiful, but I think she is.'

Comparison between this analysis and the others presented in this paper: In order to find out how this analysis compares to the ones presented above, it is necessary to look again at the examples that proved to be exceptions, or for which no satisfactory explanation was found.

McKay's cases that call for the use of the subjunctive can all be explained easily in this analysis.

A command expresses an action that has not occurred yet, i.e., it is not known to be true; therefore it is logically (for Spanish) expressed by the use of the subjunctive. A command in the indicative mood need not be considered a formal exception (see p. 72 above). (173) expresses that the speaker's certainty that the hearer is going to act as directed is over 50%, and that is why the command is felt as a reminder.

(173) Viene tempranito, oye? 'Come early, do you hear?'

In a sentence like (174), it seems to me that we must not talk about weak doubt (see p. 73 above) because the speaker is 100% sure that it is raining, since he is looking out the window, and can see that in fact it is raining.

(174) Dudás que está lloviendo? Asomate a la ventana.
'Do you doubt that it's raining? Look out the window.'

In (175a) I do not know what type of instruction you are going to give me. In (175b) I already know how I am supposed to act.

(175) Haré el trabajo como usted me lo {a) ORDENE / b) ordena}.

a) 'I'll do the work whatever way you order me.'
b) 'I'll do the work as you say.'

In (176) the speaker expresses with (a) that the chances of considering her homely are over 50%, and therefore he considers her homely. He expresses with (b) that the possibilities are less than 50%, and therefore he does not commit himself to the truth of the proposition.

(176) Aunque {a) es / b) SEA} fea, es una buena muchacha.

a) 'Although she is homely, she's a good girl.'
b) 'Even though she may be homely, she's a good girl.'

The statement that impersonal expressions require the subjunctive if there is a change of subject (p. 73 above) is not entirely satisfactory because we can say:

(177) Es cierto que él dijo eso.
'It's true that he said that.'

In a similar manner we can explain McKay's examples involving persuasion, volition, uncertainty, requests, and polite statements.

A single concept can account for all those cases, and there is no need for such long classifications.

The same explanation holds for Solé and Solé's classification and their ideas of causation of behavior and hypothetical event. If something is intended to cause a certain behavior, it is hypothetical because it has not occurred yet, and therefore it is not known to be true. That is why the subjunctive is used.

In (79a) I do now know what the truth is, but I hope that person is being honest. In (79b) I know what the truth is and I hope that person is being honest.

(79) Confío en que {a) ESTÉ / b) está} diciendo la verdad.

a) 'I trust that he's telling the truth.'
b) 'I'm confident that he's telling the truth.'

A sentence like (178) expresses with (a) a proposition that needs to be accepted or rejected, and with (b) a report (to use Terrel and Hooper's terms) of known facts. It is felt as a type of complaint that the problem usually ends up the way it looks at the beginning and nothing is done about it.

(178) a) Opino que el problema se DEJE como està.
'I'm of the opinion that the problem should be left as it is.'
b) Opino que el problema generalmente se deja como está.
'I'm of the opinion that the problem is usually left as it is found.'

We have seen that a semantic analysis gives more satisfactory explanations for the use of the subjunctive than a syntactic one. Since Terrel and Hooper consider Rivero's analysis to be syntactic (see p. 86 above) the analysis I am proposing in this section is to be preferred over hers.

I consider that I have given enough examples for which explanations in terms of conventional implicature seem to be obvious; therefore in the rest of this paper I will concentrate on special cases for which an explanation may not be immediately obvious.

Sentence (179) can either mean that he allowed his accomplice to visit him, or that he admitted that his accomplice visited him (the meaning that Rivero considers (p. 324).

(179) Admitió que lo VISITARA el cómplice.
(he-admitted that him visited the accomplice) (Lit)

The permission reading requires the use of the subjunctive because the event follows the permission. The second reading also requires the use of the subjunctive if the speaker wants to express doubt. The reading expressing doubt can occur in the following situation: A prisoner has confessed that he was visited by his accomplice, but the speaker is not certain that it really happened. It is possible that the prisoner was forced to confess.

Terrel and Hooper's types of sentences can also be explained easily in terms of conventional implicature. Assertion, report, and mental act all involve some evidence on the part of the speaker. On the other hand, comment, doubt, and imperative express lack of certainty. There seems to be a descending degree of certainty among the classes just mentioned, and

in the order just specified.

(180) Sé que 2 + 2 son 4. 'I know that 2 + 2 = 4.'
In this assertion I am 100% sure.

(181) Dijo que mañana viene. 'He said that he's coming tomorrow.'
I am not 100% sure, but there is no reason to believe that he will not come.

(182) Se da cuenta que está en un gran lío.
'He realizes that he's in big trouble.'
The speaker knows that he is in trouble, or at least he considers that his chances of being in great trouble are over 50%.

(183) Conviene que nos VAYAMOS ahora mismo.
'It's convenient for us to leave immediately.'
We have not left yet.

(184) Dudo que QUIERA ir con nosotros. 'I doubt that he wants to go with us.'
I am almost sure that he does not want to go with us.

(185) ABRA la puerta! 'Open the door!'
There is no guarantee that the door will be opened.

As we have seen, an analysis in terms of conventional implicature can give explanations which are at least as satisfactory as those offered by Terrel and Hooper, who depend on six concepts which at most can be reduced to three general notions: assertion, presupposition, and neither one (p. 488). If both analyses are equally adequate, the simpler one is to be preferred (Chomsky, 1958, p. 223).

In this paper I have shown that the syntactic analyses that have been offered for the subjunctive in Spanish are not accurate. Besides, they are long and complicated. A simpler analysis based on a single concept gives the learner an idea of what underlies the use of the subjunctive in Spanish. The analysis in terms of conventional implicature accounts for most of the cases in which the subjunctive is used. Sentences like (168) above are exceptions to the analysis in terms of conventional implicature in the sense that a subjunctive form is used, even though we are dealing with a known fact. For sentences like these, we need a distinction between emotive and non-emotive like the one I propose in my thesis (The Subjunctive in Spanish, section 3.3.2.).

Finally the question of whether or not we should talk about homonymous lexical items in Spanish still remains an open one. It seems to me that at least for pedagogical purposes, we should talk about two lexical items in those cases where a verb may be followed by a subjunctive or an indicative verb form.

Footnotes

1 These are the forms that Costa Rican speakers use with the pronoun vos 'you familiar'. We use vos instead of tú 'you familiar' which occurs in other dialects. The primary difference consists of stress: vos {TENGÁS / tenés} ; tú {TENGAS / tienes} 'you have'

2 This is the only reference included in the grammar of the Royal Academy.

3 Bolinger says (footnote 10, p. 470) that he obtained those examples from a Col. Gordon T. Fish.

4 The ambiguity test is discussed in detail by Zwicky and Sadock (1975).

5 Searle's "brute" and "interpreted" facts (1969, p. 50) do not have to do with what I am discussing here.

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MODALITY IN MODERN HEBREW: A Preliminary Attempt To Account for Epistemic and Deontic Interpretations

Esther Dromi

Abstract: Several aspects of the modality system in Modern Hebrew are examined. In general, Hebrew modal expressions are found to be unambiguous as to epistemic and deontic interpretations. The behavior of modal expressions with respect to a number of syntactic categories and constructions is also examined. It is proposed that future investigation focus on the complex morphological structure of the lexical forms expressing notions of Hebrew modality.

Introduction

The purpose of this paper is to examine the modality system in Modern Hebrew. Rather than attempt an exhaustive analysis of Hebrew modality, the following will focus on a number of the major characteristics of that system. Hebrew modality, as far as I know, has not been studied systematically, and for this reason, all of the examples and discussion notes to follow are based on my own intuitions as a native Israeli-Hebrew speaker.[1]

Hebrew utilizes a very distinct modality system in which most modal expressions are not ambiguous between epistemic and deontic interpretations. Therefore, the epistemic and deontic categories of Hebrew will be discussed in separate sections of this paper. For each modal category various expressions will be presented ranging in intensity from possibility to certainty for epistemic modality and from permission to obligation for deontic modality. After discussion of the different devices by which Hebrew expresses modality, various syntactic categories and syntactic constructions, such as negation, questions and tense will be examined with special reference to their behavior within the modality system.

Epistemic Modals in Hebrew

Epistemic modals in Hebrew express one of three core notions: possibility, probability and certainty. As is indicated below, alternative terms are available to express the same modal notion. In the following chart epistemic modal expressions along with a literal gloss and grammatical classification are presented.

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(1)

possibility	probability	certainty
uli (adv) 'perhaps'	kanir?e (sent. pred) as seems 'apparently'	betax (adv) 'securely/certainly'
yitaxen (sent. pred) 'likely/feasible'	karov le-vadai (adv) near to certainty 'almost certain'	batuax (adj) sure;secure 'assured/certain'
efšar (sent. pred) 'maybe/perhaps'	tsarix lihiot *(VP) need to be 'probably'	Vadai be-vadai (adv) certain; in certain 'most certainly'
yaxol lihiot *(VP) able to be 'perhaps/maybe'		muxrax lihiot *(AP, VP)
		xaiav lihiot is obliged to be 'must happen/ bound to happen

*asterik forms are the epistemic/deontic ambiguous expression

Most expressions with an epistemic interpretation in Hebrew have no deontic interpretation, as one might expect from other languages. Only expressions that can be represented as $\begin{bmatrix}\text{verb}\\ \text{pred. adj.}\end{bmatrix}$ + lihiot are ambiguous as to a deontic or epistemic interpretation. For example, ambiguity will occur when a modal expression takes one of the following complements: NP, AP, or Locative.[2]

(2) a. dan yaxol lihiot ba-bait
Dan modal to be at home
'It is possible that Dan is at home' and
'Dan is permitted to be at home'

b. dan yaxol lihiot recini
Dan modal to be serious
'It is possible that Dan is serious' and
'Dan is permitted to be serious'

c. dan yaxol lihiot student
Dan modal to be a student
'It is possible that Dan is a student' and
'Dan is permitted to be a student'

d. dan tsarix lihiot ba-bait
Dan modal to be at home
'It is probably the case that Dan is at home' and

'Dan is obliged to be at home'

e. dan muxrax lihiot student
xaiav
modal to be a student
'Dan is certainly a student' and
'Dan is under a strong obligation to be a student'

It is true for Hebrew, as for English and other Languages (Steele, (1975), that epistemic/deontic ambiguity shows a systematic and predictable relationship. As was argued by Horn (in Steele (1975), a possibility reading relates to permission in the same way as a probability reading relates to weak obligation and a certainty reading relates to a strong requirement.

In Hebrew, adjectives, adverbs and sentential predicates function as pure epistemic modals. The distinction between adverbs and other form classes is manifested in terms of word order. The class of adverbials shows a relatively free or floating position within the simple sentence construction.

(3) Uli dan oved ; dan vuli oved ; dan oved uli
modal Dan work/is working modal modal
'It is possible that Dan works'

Other modality terms, besides adverbs, always appear in the initial position of a construction such that the modal precedes the proposition which it modifies.

(4) a. yitaxen še- dan oved
yaxol lihiot
efšar
modal that Dan work/is working
'It is possibly the case that Dan is working'

b. kanir?e še- dan ba-bait[2]
batuax
modal that Dan at home
'It is probably/certainly the case that Dan is at home'

An initially ambiguous modal expression after application of the syntactic device of sentence preposing, and subsequent treatment of the expression as a sentential predicate, is disambiguated and becomes a pure epistemic modal. For example, yaxol in noninitial position gives rise to an ambiguous construction.

(5) a. dan yaxol lihiot ba-bait
modal to be at home
'It is possible that Dan is at home' and
'Dan is permitted to be at home'

But with yaxol in initial position, the ambiguity is lost.

b. yaxol lihiot še-dani ba-bait
model to be that at home
'It is possible that Dan is at home'

Deontic Modals in Modern Hebrew

In the traditional view of Hebrew grammar two deontic modal expressions are discussed: yaxol (v) which corresponds to the English 'may' 'can' and 'able to,' and tsarix (v) which corresponds to the English 'must,' 'need,' 'should' and 'have to.' As in other languages (Lakoff (1972), these two modal verbs in Hebrew manifest syntactic and semantic irregularities. Both verbs lack an infinitive form, which in Hebrew is naturally included within the system of verb inflections. Yaxol is conjugated according to a "defective" declension, and tsarix is irregular in the sense of belonging to a group of verbs for which the morphological pattern marker and the initial consonant exchange positions.[3,4]

The Hebrew modal verbs yaxol and tsarix express the deontic concepts of permission and obligation respectively.

(6) a. hu yaxol lalexet
he modal to go
'He is permitted to go'

b. ata yaxol likro
you modal to read
'You are permitted to read'

c. ata tsarix lalexet
you modal to go
'You are required to go'

Note here that when a modal takes an infinitive complement other than 'to be' we get a pure deontic interpretation. Compare examples (6) and (2).

Within the deontic domain, yaxol is ambiguous between interpretations of permission and ability/capability.[5]

(7) a. hu yaxol lilmod refu?a
he modal to study medicine
'He is permitted to study medicine' and
'He is able/capable to study medicine'

b. ata yaxol levaker otanu
modal to visit us
'You are permitted to visit us' and
'You are able to visit us'

The notions of permission and ability can also be expressed by means of one of the following predicate adjectives: mesugal and mutar. Mesugal corresponds to the English expression "is able to."

(8) a. hu mesugal lalexet
he modal to go
'He is able to go'

b. hu mesugal lilmod refu?a
modal to study medicine
'He is able/capable to study medicine'

The two examples in (8) seem superficially identical to the examples in (6) and (7), but they do appear to have distinct underlying representations. The sentences in (6) and (7) are "complete" sentences (S-V-O) while the sentences in (8) are copula constructions. A construction indicating the future will demonstrate the distinction.

(9) a. hu yuxal lalexet
he modal future to go
'He will be able to go'

b. hu yihie mesugal lelexet
he to be future modal to go
'He will be able to go'

The other predicate adjective, mutar, corresponds to the English expression 'is permitted'.

(10) a. mutar le-dani lalexet
modal to dani to go
'Dani is permitted to go'

b. mutar lo lilmod refu?a
modal him(dat) to study medicine
'He is permitted to study medicine'

The examples in (10) are syntactically similar to the epistemic modal constructions discussed in the previous section. But here, the deontic modal expression appears in initial position and precedes the proposition it modifies. In (10) the originator of the permission is not identified as the subject of the main clause.

The deontic notion of obligation, as already shown, is expressed by the verb form tsarix. The notion of obligation in addition is expressed in Modern Hebrew by the predicate adjectives xayar and muxrax each conveying different degrees of strong obligation. These two expressions of obligation, in combination with the verb tsarix, can be ordered with respect to the internal intenstiy of their obligation.

(11)

modal	deontic interpretation
tsarix	requirement
muxrax	weak obligation
xayav	strong obligation

(12) a. hu tsarix lakum mukdam
he modal to wake up early
'He needs to get up early'

b. hu muxrax lakum mukdam
modal to wake up early
'He is forced to get up early'

c. hu xayar lakum mukdam
modal to wake up early
'He is under a strong obligation to get up early'

Independent evidence for this ordering is the use of the three obligation expressions in contexts where they function as main verbs.

(13) a. ani tsarix kesef
'I need money'

b. ani muxrax kesef
'I (desperately) need money'

c. ani xayav kesef[6]
'I owe money'

Grammatical Categories

The modal system in Modern Hebrew consists of verbal as well as nominal constructions. In comparison to English, which uses quite a number of verbal auxiliaries to express modality notions, (Lakoff, 1972), Hebrew utilizes only two verbal expressions that in traditional grammar are considered to be auxiliary verbs. Most epistemic concepts are expressed by adverbs, some modify the main verb and some modify the whole sentence. In addition, though, predicate adjectives are used to express both epistemic and deontic concepts. Two frequent complements of modal terms in Hebrew take the form of infinitival phrases and embedded sentences marked by še- 'that'.

(14) a. dani yaxol (v) la?avod ba-bait
modal to work at home

b. dani xayav (adj) lilmod ?ivrit
modal to study Hebrew

c. dani xuyav (v) lilmod ?ivrit
modal to study Hebrew

d. yitaxen še- dani xole
modal that Dani is sick

e. mutar le-dani likro sefer[7]
modal to Dani to read (a) book

Negation

Sentence negation in Hebrew is formed by the adjunction of a negative marker lo before the main verb of a dominating or an embedded sentence. With present tense sentences, sometimes a special negative marker ?eyn is used both in an initial position or following the subject of the sentence. When ?eyn follows the subject it is always pronominalized .

(15) a. dan lo oved po
negative marker work(M) here
'Dan is not working here'

b. ?eyn dan oved po
negative marker work(M) here
'Dan is not working here'

c. dan ?eyno oved po
negative +pro work(M) here
'Dan is not working here'

d. rina ?eyna ovedet po
negative marker work(F) here
+ pro
'Rina is not working here'

In copula constructions in present tense ("nominal sentences"), lo or ?eyn [+pro] are inserted between the subject and the predicate.

(16) a. dan lo po
negative here
'Dan is not here'

b. dan ?eyno po
negative +pro here
'Dan is not here'

The basic negative marker lo alternates with al in imperative sentences and with ?iy- in "derived" nominal constructions.

(17) a. al tilmad ?ivrit
negative study Hebrew
'Don't study Hebrew!'

b. ?yi- kabalat hamixtav hirgiza et dan
negative acceptance the letter irritate(past) acc. Dan
'The fact that the letter never arrived irritated Dan'

Berman (1978) argued that the prefix ?iy- indicates an underlying negative sentence for the "derived" nominal.

Two types of semantic negation are possible for all modal expressions in Hebrew:
(i) External negation - here the modal operator itself is negated (~◇P or ~□P).
(ii) Internal negation - here the proposition is negated (◇~P or □~P).
External negation in Hebrew takes the form (negative + modal)

(18) a. lo yitaxen še- dani xole
negative modal that dani (is) sick

b. dani lo yaxol lihiot xole
negative modal (is) sick
'Dani can not be sick'

c. hu lo mesugal lalexet
he negative modal to go
'He is not able to go'

d. hu lo xayav lilmod ?ivrit
he negative modal to study Hebrew
'He is not obliged to study Hebrew'

Only the epistemic modal efšar is negated by the prefix ?iy-.

(19) ?iy- efšar še hayom yom šiši
negative modal that the day day six
'It is impossible that today is Friday'

?iy- efšar lalexet ?axšav
negative modal to go now
'It is impossible to go now'

The epistemic modal uli 'perhaps' does not accept the common syntactic form of negation. The term uli can only be negated semantically by the epistemic modal betax 'certainly'.

(20) a. uli hu oved
modal he work/is working
'Is it possible that he works'

*b. lo uli hu oved

c. betax hu oved
modal he work/working
'It is certain that he works'

Not accepting the common form of negation is also true for the deontic modal mutar 'is permitted', which is semantically negated by the negative modal asur 'is forbidden.'

(21) a. mutar le- dani likro
modal to dani to read
'Dan is permitted to read'

*b. lo mutar le-dani likro

c. asur ledani likro
modal to dani to read
'Dani is not permitted to read'

Internal negation, negating the proposition, takes the general syntactic form of [modal + neg + VP] within the modality system.

(22) a. uli hu lo oved
modal negative work/is working
'Perhaps he is not working'

b. dani vadai lo ba-bait
modal negative at home
'Dani probably is not at home'

c. mutar le-dani lo likro
to dani negative to read
'Dani is permitted not to read'

Formation of Questions

Yes-No questions in Hebrew are formed by changing the intonation pattern (rising intonation implies a question). Wh-questions are formed by introducing a question word in the initial position of a simple declarative sentence (no change in word-order is necessary).

(23) a. hu lomed ba-bait
'he studies at home'

b. hu lomed ba-bait?
'does he study at home'

c. eifo hu lomed?
'Where does he study?'

d. mi lomed ba-bait?
'Who is studying at home?'

Information seeking questions in Modern Hebrew are formed with all of the epistemic and deontic modals.

(24) a. uli hu oved?
modal he work
'Perhaps he is working'

b. batuax še rina yešena?
modal that rina is sleeping
'Is it certain that Rina is sleeping?'

c. Ha?im tsarix la?avod axsav?
quest modal to work now
'Is it necessary to work now?'

d. mutar le?ašen po?
modal to smoke here
'Is it permitted to smoke here?'

Past and Future - Interaction with Tense

Modern Hebrew manifests a three-way tense system. The morphological forms for past tense in Modern Hebrew are similar to the Biblical Hebrew perfective aspect. Future tense forms are similar to the Imperfect aspect in Biblical Hebrew. Present tense or Beynoni 'intermediate' forms refer to an indetermined time span, which is neither past nor future. Additionally, aspectual categories such as durative or perfective have no clear manifestation in verbal forms and they are expressed by the use of time adverbials, (Berman, 1978). In order to indicate past or future tense for a sentence, regular main verbs are inflected. The verb (g-m-r + morphological pattern "kal") has the following forms:

(25) a. (ani) gamarti lilmod
I finish(past) study

b. ani gomer lilmod
I finish(present) to study

c. (ani) ?egmor lilmod
I finish(future) to study

Note that obligatory marking of person is needed only for present tense forms, since past and future forms are inflected according to number, gender and person.

In addition to main verb constructions, tense is manifested in copula constructions. Copula constructions share the surface property of having no overt manifestation of the verb in present tense (nominal sentences), and of having some form of the copula h-Y-Y 'to be' in past

or future.

(26) a. hu yeled tov
he boy good
'He is a good boy'

b. hu haya yeled tov
was
'He was a good boy'

c. hu yihiye yeled tov
'He will be a good boy'

In Hebrew, as in other languages, epistemic expressions which are based on the current knowledge of the speaker do not have past or future forms. Thus the only interaction between epistemic modals and tense takes the form of making the proposition itself past or future.

(27) a. kanir?e še dani oved
modal that Dan work/is working

b. kanir?e še dani ya?avod
modal that Dan work(future)

c. hu betax xole
he modal sick

d. hu betax haya xole
he modal be(past) sick

Deontic modals in Modern Hebrew, on the other hand, do have past and future forms. In Modern Hebrew, the future marker functions as a pure tense marker; it does not convey any modality notions. Here consideration must be given to the class of verbs and other form classes as well. Verb forms accept explicit past and future forms, while nominals accept the form [copula + modal] . In nominal constructions the copula is conjugated to indicate tense.

(28) a. ani yaxol lilmod
I modal to study

b. (ani) yaxolti lilmod
I modal past to study

c. (ani) ?uxal lilmod
I modal(future) to study
'I am/was/will be permitted to study'

d. ani tsarix lalexet
I modal to go

e. (ani) hitstaraxti lalexet
I modal (past) to go

f. (ani) ?tstarex lalexet
modal(future)
'I have to/had to/ will have to go'

g. ani mesugal likro
I modal to read

h. (ani) hayiti mesugal likro
I be past modal to read

i. (ani) ?eheye mesugal likro
be(future) modal
'I am/was/will be able to read'

j. (ani) xayav lišon
I modal to sleep

k. (ani) hayiti xayar lišon
I be past modal to sleep

l. (ani) ?eheye xayav lišon
be(future) modal
'I have/had/will have a strong obligation to sleep'

So far no irregularities in the tense system have been encountered, but more investigation is needed in order to test the role of tense in the modality system. In colloquial Hebrew regular past and future conjugations of modal verbs are used interchangeably with [Cop + present] verb forms.

(29) a. (ani) hitstaraxti lalexet
I modal past to go

b. (ani) hayiti tsarix lalexet
be past modal to go
'I have had to go'

c. yaxolta lilmod ?ivrit
modal(past) to study Hebrew

d. hayita yaxol lilmod ?vrit
be(past) modal
'You could have studied Hebrew'

Both forms are used widely and considered to be grammatical and identical in meaning. Berman(1978) has argued that there is a general tendency among Hebrew speakers to prefer periphrastic analytic forms to the older more normative verbal forms. This might explain the high frequency of [Cop + present] in the modality system. Moreover, the fact that non-verbal forms such as mutar, mesugal, muxrax, xayav, can accept verbal forms such as matir, maxriax, mexuyav, makes it possible to use verbal forms in past and future constructions rather than in [Cop + modal] constructions.

(30) a. 1. hu haya muxrax la?avod
be(past) modal to work
'He needed to work'

2. hu huxrax (V) la?avod
modal(past) to work
'(somebody) forced him to work'

b. 1. ani hayiti xayav lišon
I be(past) modal to sleep
'I needed to sleep'

2. ani xuyavti (V) lišon
I modal(pass) to sleep
'(somebody) forced me to sleep'

c. 1. haya mutar lexa lehikanes
be(past) modal to you to come in
'You could come in'

2. hutar (V) lexa lehikanes
modal(pass) to you to come in
'(somebody) let you in'

The (1) and (2) sentences above are not identical in meaning. For each pair the verbal form in (2) makes it clear that the permission or the obligation is extrinsic and has been imposed by someone on the speaker. (Compare Newmeyer, 1970). The fact that all Hebrew "open class" lexical items share the same general form, [consonantal root + morphological pattern], makes any analysis much more complicated. In Hebrew very often verbs, nouns, and adjectives are derived from the same consonantal root and so convey a very similar meaning. This aspect of the Hebrew modality system deserves further investigation.

In sum, several aspects of the modality system in Modern Hebrew have been discussed. It has been suggested that both epistemic and deontic categories of meaning are in general unambiguously expressed. The instances of ambiguity that do occur have been explained on the basis of structural evidence. An attempt also has been made to look at the syntactic constructions of negation, questions and tense within the

modality system. Further analysis of the lexical forms expressing modality in Hebrew is hampered by a complex morphological structure and it is therefore proposed that future investigation accept this complex structure as a starting point.

Footnotes

1 As argued in Givon (1976),it is quite difficult to define what is a native Israeli dialect. Most Hebrew speakers have been raised in a multi-dialect environment, and then have been exposed to a wide variety of Biblical, Mishnaic, Talmudic, Aramic and East European Hebrew texts. A lot of formal teaching of Hebrew morphology and syntax is taking place in school programs. For these reasons it is extremely difficult to elicit reliable information concerning native intuition (Berman,1978). As for my own dialect both my parents were native Israelis, and Hebrew was the only language spoken at home. Hebrew also was the first language of instruction at school from first grade through graduate level education.

2 When the modal + to be takes a V complement we get an ungrammatical expression. *dan tsarix lihiot oved
Dan modal to be work/working
'It is probably the case that Dan is working'

However, there are some verbs that take NP, AP, locative and VP in present tense as complements. For example: dan haya Omed
be/past stand/standing

For a comprehensive discussion of copula constructions see Berman (1978), chapters 5 and 6.

3 All Hebrew verbs manifest a rich system of inflectional affixes. Verbs are conjugated according to Tense, Number, Gender, and Person. Any verb is classified as belonging to a "full" or "defective" declension. The "defective" verbs go through several irregularities in terms of their consonantal structure. These irregularities are usually explained by morphophonemic rules. All Hebrew verbs are based on a combination of (Consonantal Root + Morphological Pattern). The function of the morphological patterns 'bynianim constructions,' is to express for each verbal root syntactic processes such as transitivity, causativeness, inchoativeness, ingression, reflexivity and reciprocality (a detailed analysis of the Hebrew verbal system is in Berman (1978), chapter 3).

4 For simplicity all the verbs in this paper will take the form (Present, singular, masculine, 3rd person) unless there is a point in looking at other forms. For each verb only one 'construction' will be presented, usually the basic bynian, unless otherwise specified.

5 Ability and capacity both in physical and mental senses.

6 In several contexts xayav is used to denote guilt. For example:

(i) hu xayav badim
'He is guilty'

(ii) hu xayav mita
he guilty death
'He deserves death'
xayav has a strong implication that 'there is no other way'...

7 Examples (15) and (15e) are irregular in terms of being (S)VO sentences. This aspect of Hebrew syntax is currently being studied by Berman (personal communication). As noted by her, in colloquial use some speakers supply the demonstrative ze 'this' as a substitute for the "missing" subject. Thus:
(i) yitaxen še- dani xole ~ ze yitaxen še- dani xole
modal that Dan(is) sick this modal that Dan is sick
The investigation of this process is beyond the scope of this paper and requires further exploration.

8 Note here that regular main verbs do not take [Cop + V] forms
(i) ani halaxti lišon but
I went to sleep

*(ii) ani hayiti holex lišon
I be past go to sleep

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STACKABILITY OF MODALITIES

Ines Senna Shaw

Abstract: This paper examines the stackability of the deontic modalities; permission, ability, obligation and necessity, in Portuguese, Malay, Korean and English. Principles are developed in the form of predictions about the possible logical combinations of these modalities and tested by means of sentences submitted to the judgment of native speakers. It was found that these principles and logical combinatory possibilities are applicable to these four languages, and it is concluded that there is a high probability of application to any natural language in which these modalities are grammatically realized.

Introduction

This paper is a study of stackability or possible combinations of some deontic modalities such as permission, ability, obligation or imposed necessity, and plain or existential necessity. I will be trying to determine the principles which allow modalities to be stacked and whether these principles hold for different languages. Predictions regarding the logical combinations of stackable modalities are made and sentences, which are submitted to native speakers' judgment, are used to verify the accuracy of these predictions.[1] Used in this paper are the following languages and their corresponding language families:

English	:	Germanic	;	Indo-European
Portuguese	:	Italic	;	Indo-European
Korean	:	Altaic	;	Common North Asiatic
Malay	:	Malayan	;	Malayo-Polynesian

The Stackability of Modalities

Permission modals require a source of permission. Therefore, there are two possible ways of stacking them:

a) $S_1 \Diamond_d + S_1 \Diamond_d$ *

b) $S_1 \Diamond_d + S_2 \Diamond_d$

In the first case, a source gives permission to itself to permit itself to do or be something or to permit something to happen. Such redundancy does not seem to have any particular function (e.g., as opposed to reduplication of syllables or words, a redundancy which indicates plurality in some languages) and, therefore, its occurrence is not expected. The following sentences confirm this prediction:

*Abbreviations and symbols are listed in the appendix.

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(1) *The Department of Education permits itself to permit the publication of that play without prior censorship

(2) *The publication of that play may be permitted without prior censorship by the Department of Education (according to the Department of Education)

Port. (3) *o departamẽto de edukasão se permite (a si mesmo)
the department of education RP permits Prep. RP same

a permitir a publikasão dakɛla pɛsa sẽ sẽsura
Prep. permit the publication of-that play without censorship

prɛvia
previous

(4) *a publikasão dakɛla pɛsa pode ser permitida pelo departamẽto
may permitted by-the

de edukasão (de akordo cõ o departamẽto de edukasão)
in accordance with

In all of these examples, the sources of permission are redundantly the same, resulting in ungrammatical, semantically incongruous and logically impossible sentences. Therefore, the first possibility must be modified to $S_1 \Diamond_d$ * $S_1 \Diamond_d$.

In both cases, (a) and (b), the second half of the combination fulfills the requirement of modal expressions of permission that the permission be granted to someone to do something. However, in the second combination, the sources of permission are different, and therefore the problem of redundancy is absent. Consequently, the stackability of permission modals is logically expected. The following examples illustrate the second combination:

(5) you may permit her to leave early.
source X permits you(y) to permit her to leave early

(6) tell them she may be permitted to leave early.

Port. (7) vose pode deisa la sair sedo.
you may allow her to leave early.

Korean (8) ki yɛca eke ilcik ttɔna tolok hɛlak haye to cot^{h}a
the woman DM early leave in order permit may

Malay (9) kamu boleh benarkan dia pergi awal
you may permit 3pp leave early

These sentences confirm that when source X permits source Y to do something, the sentence is logical, grammatical and semantically congruous, regardless of whether both sources of permission are explicitly mentioned in the sentence. Therefore, when source X is not explicitly mentioned in the sentence itself, some sort of identification on the part of the speaker

must occur. I observed that there is a tendency to identify the speaker as the source of the first modal when no explicit source is mentioned in the sentence. It should be added that this will happen only if the speaker is understood to be involved in the context. Otherwise, source X may be identified by further inquiry on the part of the hearer or addressee, or be understood to be someone (other than the speaker) related to the context.

However, when the expression "according to" occurs, there is a tendency to identify the person according to whom something is said as the source of the first modal, thus overriding the former tendency. Sentences (5) through (9) and the following examples were used to observe the identification of source X:

(10) tell them that according to the dean you may permit her to enroll late

(11) according to the dean, she may be permitted to enroll late

Port. (12) diga a eles ke de akordo cõ o reitor vose
tell to them that in accordance with the dean you

pode deiša la se matrikular atrazada
may permit her RP enroll late

Korean (13) kɨtɨl eke nɨcke tɨŋlok ha tolok kɨ yəca eke hɛlak hayə
them DM late enroll in order the woman DM permit

cuə to tönta ko mal hayə la
Ben. may Quo. tell Imp.

To verify if such identification is logically possible, these sentences will be submitted to a test of contradiction. The possible logical combinations are:

(a) $S_X \Diamond_d + S_Y \Diamond_d + S_X \sim \Diamond_d$

(b) $S_X \Diamond_d + S_Y \Diamond_d * S_X \sim \Diamond_d$

(14) tell them that according to the dean she may be permitted to enroll late but that I (myself) do not permit it

(15) tell them that according to the dean she may be permitted to enroll late but that he does not permit it

Port. (16) diga a eles ke de akordo cõ o reitor ∝ (specific source of 2nd modal)
say to them that in accordance with the dean

pode deiša la se matrikular atrazada mas ke eu
may permit her RP enroll late but that I

não permito iso
not permit this

Port. (17) de akordo cõ o reitor ∝ pode deiša
in accordance with the dean specific source of 2nd modal may permit

la se matrikular atrazada mas ke ele não permite iso
her RP enroll late but that he not permit this

These sentences were not perceived to be contradictory. Speakers of both languages agree that the source of the first modal is not the dean. It seems, therefore, that the dean is the source of information rather than the actual source of authority of the first modal. In the affirmative declarative sentences, he is perceived to be going along with the source of authority while in the sentences above, he disagrees with one source of authority. In the particular context given above, native speakers suggest that the first source of authority consists of regulations with which the dean may or may not agree. The following sentences show the presumed identification of the speaker of the sentence as one of the sources of authority.

(18) you may permit her to enroll late but I do not permit it

Port. (19) vose pode deiša la se matrikular atrazada mas eu não
you may permit her RP enroll late but I not

permito iso
permit this

Korean(20) *kɨ yəca eke nɨcke tɨŋlok hatolok hələk haecuəto
the woman D M late enroll in order permit

cohta kɨləna nanɨn kɨkəsɨl hələk hacɨ anɨ ha nta
may but I TP it OB permit not do PT decl.M

Korean(21) kɨ yəca eke nɨcke tɨŋlok hatolok hələk haecuəto cohta
the woman DM late enroll in order permit may

ko ha nta kɨləna nanɨn kɨkəsɨl hələk hacɨ anɨ ha nta
Quo.say Decl.Y but I topic it OB permit not do PT Decl.M

In these sentences, the speaker is the source of authority of the negated model. When the speaker is involved in a context of permission and is not clearly identified as the first source of authority, no contradiction ensues in languages such as English and Portuguese, as illustrated by sentences (18) and (19). It follows that if the context makes the identification of the speaker as the first source of both affirmative and negative sentences unavoidable, then a contradiction of the following type occurs:

$$S_X \Diamond_d + S_Y \Diamond_d \quad * \quad S_X \sim \Diamond_d.$$

(22) *You may permit her to enroll late but I do not permit it

Port. (23) *vose pode deiša la se matrikular atrazada mas eu não
you may permit her RP enroll late but I not

permito iso
permit this

In Korean, however, a contradiction ensues when no source of information is made explicit in the sentence as (20) illustrates. In other words, if such information is not explicit, the speaker is assumed to be either the actual source of authority or in agreement with the source. Thus, the stackability of permission modals in sentence (21)

is logically possible because the sentence makes it clear [by means of the phrase ko ha nta (roughly equivalent to 'they say')] that the source of information or authority of the affirmative sentence is not the speaker.

In summary, in affirmative declarative sentences, there is a tendency to identify the speaker as the source of information rather than the actual source of authority, when no other source of information is explicitly mentioned in the sentences. In some languages, this source of information is necessarily also in tacit agreement with the source of authority (e.g. Korean) while in other languages, the source of information may or may not be in agreement with the source of authority (e.g., Portuguese, English). In the latter type of languages, the context, and not the information contained in the sentence, determines the identification of the speaker as the source of authority. Thus, a contradiction ensues when the speaker is unavoidably identified through the context as the source of authority of the first modal of an affirmative sentence and simultaneously the authority of the negative sentence. Thus, the following logical combination applies to any language:

$$S_1 \Diamond d + S_2 \Diamond d * S_1 \sim \Diamond d.$$

Ability modals differ from permission modals in that ability is a feature inherent in an object. Thus, an object may have or acquire an ability but not be granted an ability. The following are possible ways to stack ability and permission modalities:

a) $S_1 \Diamond d + S_{1a} \Diamond d$

b) $S_1 \Diamond d + S_{2a} \Diamond d$

c) $S_{1a} \Diamond d + S_1 \Diamond d$

d) $S_{1a} \Diamond d + S_2 \Diamond d$

The first combination is illustrated by the following sentences:

(24) *he permits himself to be able to solve highly complex problems

(25) *he may can solve highly complex problems

Port.(26) *ele se deĭsa poder rezolver problemas estremamente complɛksos
he RP allow be able solve problems highly complex

Without a specific context, these sentences are perceived to be ungrammatical or semantically incongruous, and logically impossible. Apparently, the source of authority of the first modal is granting permission for an ability which is not inherent in the object. This hypothesis is also confirmed in the following sentences which illustrate the second combination.

(27) *you may be able to walk unaided in that scene

Port.(28) *vose pode poder ãdar sẽ ažuda nakɛla sena
you may be able walk without help in-that scene

Malay (29) *kamu boleh boleh berjalan tanpa pertolongan dalam babak itu
you may be able walk (without aid in that scene)

Malay (30) *kamu boleh berupaya berjalan tanpa pertologan dalam babak itu
you may be able walk

(31) *kamu dibenarkan boleh .... itu
permission modal be able

(32) *kamu dibenarkan berupaya ... itu
be able

However, it should be pointed out that the notion of ability may vary in different contexts. Thus, it seems possible that a certain type of ability which is not an inherent ability can be granted through permission. To clarify this point, let us consider the following context: an actor is portraying a man in his struggle to overcome a handicap, an inability to walk unaided. The director is asked to allow the actor to regain the ability to walk in a certain scene. The actor asks: May I be able to walk unaided in that scene? and the director answers with (33):

(33) you may be able to walk unaided in that scene

Korean (34) kɨ caŋmyən esə nɨn touməpsɨ kəl ilsu issə to tönta
the scene in topic unaided walk can may

Port. (35) eu deiso vose poder ãdar sẽ azuda nakɛla sena
I allow you be able walk without help in-that scene

As these sentences show, different grammatical and semantic requirements operating in different languages do not affect the logical combinatorial structure of modalities. Thus, the prediction that an object may have or acquire an ability (as in the case of the sentences above) is confirmed. This fact necessarily modifies the previous conclusion about the first combination and it must be expected to be logically possible as well.

(36) I allow myself to be able to solve anything

Port. (37) eu me permito a poder rezolver kwalker koisa
ser capaz de
I me permit to be able resolve anything
myself be capable of

Ability modals express the idea that someone has the ability to do something. This necessarily means that the source of ability is the source of the action made possible by that ability: this action may be the granting of permission .

(38) he is able to permit her to leave now (that he has overcome his anger at her having an abortion)

Port. (39) ele agora pode deisa- la ir ẽbora
he now be able allow her go away

Korean (40) kɨ yəca eke cikɨm ttəna tolok hələk haye culsu issta
the woman DM now leave permit can exist

Malay (41) dia boleh benarkan dia pergi
3p be able permission 3p leave
pro. pro.

(42) *he is able to be permitted by them to leave early

Therefore, the combination $S_{1a} \Diamond d + S_1 \Diamond d$ is confirmed but

$S_{1a} \Diamond d + S_2 \Diamond d$ must be modified: $S_{1a} \Diamond d * S_2 \Diamond d$.

Let us look at the stackability of ability modals. We now know that the source of ability has to be the same source as "what one is able to do." In addition, to say that one is able to be able seems redundant. The following sentences confirm this observation, suggesting that the following prediction is applicable to any language:

$S_{1a} \Diamond d * S_{1a} \Diamond d$.

(43) *he can be able to walk unaided in that scene

(44) *he is able to be able to walk unaided in that scene

Port. (45) ele pode ãdar sẽm ažuda nakɛla sena
can walk without help in that scene

Korean (46) **toum əpsi kəlɨl su iss ɨl su issta
unaided walk be able be able

(47) toum əpsi kəlɨl su iss ta
unaided walk be able

Malay (48) *dia boleh berupaya berjalan tanpa pertologan dalam
3pp may ability modal walk

babak itu

Malay (49) dia boleh berjalan tanpa pertologan dalam babak itu
3pp may walk

Port. (50) **ele pode poder ãdar sẽ ažuda nakɛla sena
is able to
be able

I also observed that the sentences in which two modals with the same form were stacked were considered highly unacceptable. This unacceptability may be related to syntactical rules in many if not all languages which prevent the sequential repetition of words of the same grammatical class. As an example, there is a study by J. R. Ross (1972), entitled "Doubling", which shows the ungrammaticality of the sequential repetition of (the same) present participles.

Similar to permission, obligation requires a source to impose a necessity to do something on someone. Therefore, it is expected that one

is obliged to permit something or that one is obliged to be able to do something. The following sentences confirm that obligation and permission can be stacked in this order:

$S_{1o} \Diamond d + S_2 \Diamond d$

(51) he must permit her to go

(52) he must be able to let her go

Port. (53) ele tẽ ke permitir ke ela va
he has to permit that she go

Port. (54) ?ele tẽ ke poder ãdar
he has to be able walk

Korean (55) ki yəca eke ka tolok hələk ha yəcuəya hanta
the woman DM to permit must

Korean (56) kalil su issəya hanta
walk be able must

Malay (57) dia mesti benarkan dia pergi
3pp must permit 3pp go

Malay (58) ?dia mesti boleh berjalan
3pp must be able walk

Sentences (54) and (58) indicate that some speakers felt uncomfortable with the stackability of obligation and ability modalities. I believe that this problem may arise from the fact that ability is inherent in predicates such as walk. It should be noticed that these sentences were not considered ungrammatical. Data from other languages should shed some light on this problem.

On the other hand, it is expected that one may impose an obligation on oneself to do something, be it granting permission or being able.

(59) he obliges himself to permit anyone to apply for the job, even though he has an aversion to certain types of people

(60) he obliges himself to be able to run 10 miles a day regardless of how he feels

Port. (61) ele se obriga a permitir ke kwaʔkan pessoa pesa
RP oblige to permit that any person ask
o ẽprego
the job

(62) ele se obriga a koxer 10 miʎas por dia
run prep. day

Therefore, logically $S_{1o} \Diamond d + S_1 \Diamond d$ and $S_{1o} \Diamond d + S_{1a} \Diamond d$ are possible, although the second combination cannot be expected to surface in all languages, given that speakers may perceive ability to be inherent in some predicates.

Some of the observations made earlier apply to the question of whether permission or ability modals can be stacked with obligation, in this order. Permission may be granted to someone to impose an obligation, implying different sources for both modals, and one may be able to impose obligations, implying the same source for both modals. Therefore, the following combinations are expected:

a) $S_1 \Diamond d + S_{2o} \Box d$

b) $S_{1a} \Diamond d + S_{1o} \Box d$

c) $S_1 \Diamond d * S_{1o} \Box d$

d) $S_{1a} \Diamond d * S_{2o} \Box d$

(63) he may oblige her not to leave town

Port. (64) ele pode obriga-la a não sair da sidade
may oblige her prep. not leave of the town

Korean (65) ki-nin ki yəca ka c^{h}ult^{h}a ha ci ani ha tolok conyon ha
he topic the woman leave town not to oblige
yəto tönta
may

Malay (66) dia boleh paksa dia supaya tidak tinggalkan pekan ni
may force

(67) *he permits himself to oblige her not to leave town

Port. (68) ele se permite a si mesmo a obriga-la a não
permit himself prep. oblige her
sair da sidade

These sentences confirm the accuracy of the first and third combinations.

(69) he can oblige her to go = he is able to oblige her to go

Port. (70) ele pode obriga-la a ir
prep. go

Korean (71) ki nin ki yəca eke ka tolok conyon hal su issta
he topic the woman DM to oblige be able

Malay (72) dia boleh paksa dia pergi
be able force go

(73) *he is able to be obliged by her to undergo that operation

Port. (74) *ele pode ser obrigado por ela a fazer akela operasão
be obliged by her to undergo that operation

Korean (75)* ki nin ttəna ci ani hamyən ani tölsu issta
he topic leave according to exist

These sentences confirm the accuracy of the second and fourth combinations.

There are two possible ways of stacking obligation modals:

a) $S_{1o} \Box d + S_{1o} \Box d$

b) $S_{1o} \Box d + S_{2o} \Box d$

The first combination states that a source imposes an obligation on itself to become the source of the next obligation modal. This results in a redundant imposition and, logically, the first combination is expected to be $S_{1o} \Box d * S_{1o} \Box d$. The following examples confirm the prediction.

(76) *she obliges herself to oblige her students to come on time

Port. (77) *ɛla se obriga a obrigar os alunos dela a chegarẽ
refl. oblige to the students of her to come

na ɔra
on time

However, the imposition of an obligation constitutes a necessity in itself and, even if different sources were involved, one would be obliged to oblige.

(78) *he is obliged to oblige his students to come on time = they oblige him to oblige his students to come on time

Port. (79) *ele ɛ obrigado a obrigar os alunos dele a chegarẽ
is obliged to oblige

na ɔra
on time

Although grammatical, these sentences are also perceived as redundant and the second combination must be modified to:

$S_{1o} \Box d * S_{2o} \Box d$.

The difference between sentences (80), (83) and (81), (82) lies in the transitivity of the obligation modality. However, some ambiguity should be expected when non-specific modals such as must are used, because obligation, in addition to constituting a necessity in itself, also implies a complement which constitutes a necessity as well.

(80) he must be responsible for his own actions

(81) I oblige him to be responsible for his own actions

(82) he is obliged to be responsible for his own actions

(83) he must be obliged to be responsible for his own actions

If it becomes necessary to differentiate between plain necessity and imposed necessity (obligation), a specific modal of obligation is probably used. Given that such ambiguity occurs, one should expect that NonSpec. Modal $\rightarrow \sim$ Modal [+obligation], that is, when a non-specific modal of necessity is negated, the meaning of obligation is automatically assigned to it to prevent contradiction.

(84) he must close all the windows at night but it is (really) not necessary = he is obliged to close all the windows at night but it is not necessary.

Port. (85) ele tẽ ke feˇsar todas as žanelas a noite mas iso
has to close all the windows at night but it

não ɛ necesario
not is necessary

*(86) he must close the windows at night but it is not necessary = it is necessary that he close the windows but it is not necessary

Port. (87) *ɛ presizo ke ele feˇse todas as žanelas mas iso não
is needed that he close all the windows but it not

ɛ presizo
is needed

These Portuguese examples suggest that plain necessity may be differentiated from obligation by the use of the different expressions presizar and ter ke. However, ter ke conveys the meaning of plain necessity, unambiguously, in other contexts.

Given that obligation differs from plain necessity in that only the former requires that the necessity be imposed by an animate source, and that plain necessity is the existential fact itself (it is necessary = there is a necessity), the only way these modalities can be stacked is the following:

$$\Box d \; {}^{+}S \begin{cases} o\,\Box d \\ a\,\Diamond d \\ \Diamond d \end{cases}$$

This also implies that the following combination is expected:

$$S \begin{cases} o\,\Box d \\ a\,\Diamond d \\ \Diamond d \end{cases} {}^{*}\Box d$$

(88) *he may/ permits that he must be responsible
can/is able to it is necessary that he be
must/is obliged to responsible

(89) he must be obliged to eat more = it is necessary that he be obliged (someone talking about a person who has anorexia nervosa)

Port. (90) ele tẽ ke ser obrigado a komer mais = ɛ presizo ke
has to be obliged to eat more is needed that

ele koma mais
he eat more

Malay (91) dia mesti dipaksa sopaya makan lebih
he must be forced to eat more

These sentences confirm the accuracy of the predictions above. However, it should be noticed that some problems remain since in Korean the equivalent sentence is ungrammatical:

Korean (92) *məkəya haci ani hamyən ani tönta

The Stackability of Epistemic and Deontic Modals

Epistemic modals are based on someone's knowledge. The possibility $\Diamond_e$, probability $_p\Diamond_e$ or necessity $\Box_e$ of something happening is predicted on the basis of what one knows about a set of circumstances. In addition, these modalities express an existential fact. Therefore, the same prediction made earlier about deontic modalities of necessity can be made here. That is, epistemic modals can only be stacked with deontic modals when they precede the latter:

Base $_{1,2}$ M_e + $S_{1,2}$ M_d and $S_{1,2}$ M_d * $B_{1,2}$ M_e.

(93) he may permit her to go = it is possible that he will permit her to go

Port. (94) ele deve permitir ke ɛla va

Korean (95) ki yəca eke ka tolok hələk haye cul ləncito molinta
the woman DM to permit may

Malay (96) dia boleh benarkan dia pergi
he may permit her go

(97) one may be able to solve these problems

Port. (98) algẽ deve poder rezolver eses problemas
someone may be able solve these problems

Korean (99) ilən munce nin pul su issil ci to molinta
such problem topic solve be able may

The question of stackability of different epistemic modals is not clear yet, and I need to look more into it before making plausible suggestions. To mention just one problem, let us examine the following sentences.

(100) it is possible that John may be sick

Port. (101) ɛ posiveu ke John esteža doente
is possible that be sick
subjunctive

Korean (102) ??John i aphil ləncito molil kanin sən i issta
sick may possibility exist

Malay (103) ? mungkin barangkali dia tidor
possibly probably he sleep

(104) it may be possible that John is sick

Port. (105) pode ser ke john esteža doente
may be that john be sick
subjunctive

Korean (106) ?? Johni aphin k^{e}si kanin halcito molinta
sick complem. possibility may

Malay (107) ?Barangkal mungkin dia tidor

In English, both sentences (100) and (104) are acceptable. In Portuguese, the subjunctive expresses one modality; if another modal were used, the sentence would be ungrammatical. In Korean and in Malay, a problem of acceptability and grammaticality occurs.

Difficulties of this type abound when one deals with epistemic modals and I would rather refrain now from making predictions which will be based on possibly unsound premises.

The Stackability of the Modals Themselves

This paper has dealt primarily with the stackability of modalities because this is a necessary step in understanding the semantic properties of modals themselves. However, some additional observations can be made.

1 - Epistemic modals can be stacked with some deontic modals if the latter do not precede them. It has been reported, and I have recently been told first-hand by a Louisiana resident, that in a Louisiana dialect, auxiliary modals can be stacked, as for example, "might could".[2] It is probable that "could" is deontic (cf. Portuguese in which epistemic dever and deontic poder can be stacked).

2 - Auxiliary modals can be stacked with periphrastic or single form modals provided that the latter follow the former. However, in English, the opposite can occur, if the auxiliary is part of a sentential complement as in sentence (100). In either case, stackability depends on the properties of modalities and their source of permission (e.g. same or different sources, etc. . .).

3 - Grammatical constraints prevent some modal expressions from being used in some constructions. In Portuguese, deisar requires an object, while permitir requires a sentential complement and must be preceded by the sentential conjunct ke. Thus, it appears (not surprisingly) that language-specific constraints, at least partially, rule the stackability of modal expressions.

Summary and Conclusion

The following is a summary of the possible ways of stacking modalities, confirmed by the four different languages dealt with in this paper and most likely applicable to any other natural language in which these modalities are grammatically realized:

$S_1 \Diamond d + S_2 \Diamond d$

$S_1 \Diamond d * S_1 \Diamond d$

$S_1 \Diamond d * S_{2a} \Diamond d$

$S_1 \Diamond d * S_{1a} \Diamond d$

$S_1 \Diamond d + S_{2o} \Box d$

$S_1 \Diamond d * S_{1\,o} \Box d$

$\begin{Bmatrix} S_o \Box d \\ S_a \Diamond d \\ \Diamond d \end{Bmatrix} * \begin{Bmatrix} B_p \Diamond e \\ \Diamond e \\ \Box e \end{Bmatrix}$

$S_{1a} \Diamond d + S_{2a} \Diamond d$

$S_{1a} \Diamond d + S_{1a} \Diamond d$

$S_{1a} \Diamond d * S_2 \Diamond d$

$S_{1a} \Diamond d + S_1 \Diamond d$

$S_{1a} \Diamond d * S_{2o} \Box d$

$S_{1a} \Diamond d + S_{1o} \Box d$

$S_{1o} \Box d * S_{1,2o} \Box d$

$S_{1o} \Box d + S_{1,2} \Diamond d$

$S_{1o} \Box d * S_{1,2\,a} \Diamond d$

$\Box d + \begin{Bmatrix} S_o \Box d \\ S_a \Diamond d \\ \Diamond d \end{Bmatrix}$

$\begin{Bmatrix} S_o \Box d \\ S_a \Diamond d \\ \Diamond d \end{Bmatrix} * \Box d$

$\Box d * \Box d$

Another generalization found to be true of all four languages is the following: when the source(s) or base of a modal is not explicitly mentioned in the sentence, the source or base of the first modal is identified with the speaker, or, the speaker is thought to agree with an unindentified source (which may be identified by the context). This identification usually occurs with single form deontic modal expressions and with either periphrastic or single form epistemic modals.

(108) according to Rattle (S), he may permit her to go $\Box_e$

(109) according to Rattle (B), he may permit her to go $\Diamond_e$

It should be noticed that with verbs such as <u>say</u>, the source may be identified with the subject of these verbs, but when <u>according to</u> occurs, it is the person according to whom something is said that is identified with the source.

(110) Baldie says that he may permit her to go

(111) Baldie says that according to Rattle, you may permit her to go

When periphrastic forms are used, the speaker may be assumed to agree with the source, especially if these forms are in the passive voice as in the case of Portuguese and English.

(112) he is obliged to permit her to go

Port. (113) ele ɛ obrigado a deixa- la ir
he is obliged to let her go

However, this need not always be the case, as when the passive is used, for example.

(114) he is permitted to oblige her to go, if this is really the only way to get her to assume her responsibilities

In the sentence above, the speaker is identified as the source.

Finally, two other principles were verified. One principle states that when modals of different meanings are stacked, they have to be of different forms. If they have the same form, a rule applies, deleting one of the forms. The other principle states that modals with the same meaning can be stacked, provided they have different forms. It should be noted, however, that these principles are bound by other constraints and are applicable only when the modalities in question can be stacked.

As was mentioned in the introduction, this is preliminary work and further investigation is needed into the stackability of other modalities and of modal expressions.

Footnotes

1 The distribution of languages and native speakers consulted for this paper is the following:

Malay - 2
Korean - 2
Portuguese - 5
English - 5

I am very grateful for the help and patience of all my informants and I would like to especially thank Professor Choon-Kyu Oh, Abdul Aziz Idris, Marcia Cunha, Pat Hamel and Jerry Shaw.

2 In addition to this personal communication, there are two studies on this linguistic phenomenon which is characteristic of more than one dialect of English. However, this subject lies outside the scope of this paper as it involves epistemic modals. References to these papers can be found in the references.

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Abbreviations and Symbols

$\Diamond_d$ - permission modality

$_a\Diamond_d$ - ability modality

$_o\Box_d$ - obligation modality

$\Box_d$ - necessity

M_d - deontic modality

M_e - epistemic modality

$\sim$ - negation

S - source

Base- base of someone's knowledge (epistemic)

* - logically impossible (in combinations)

\+ - logically possible (in combinations)

* - ungrammatical and/or semantically incongruous and/or logically impossible (before sentences)

? - indicates hesitancy or doubt of native speaker's judgement

Ben- benefactive

DM - dative marker

Decl. M - declarative sentence marker

Imp- imperative

OB - object

Prep.-preposition

pro.- pronoun

#pp- person pronoun

PT - present tense

Quo.- quotative

RP - reflexive pronoun

A CROSS-LINGUISTIC LOOK AT FUTURE MARKERS

Patricia J. Hamel

Abstract: In an effort to contribute to a determination as to whether English will is a future tense marker or a contingency marker, the uses of future markers as traditionally analyzed in Spanish, Alsatian, Turkish, Hebrew, Malay and Korean are investigated. Means of indicating future time, ranges of meaning of future-marked sentences, and the use of future in contingency clauses are compared cross-linguistically. It is concluded that when alternatives exist, speakers prefer to reserve the future marker for situations in which they are less than certain regarding the occurrence of an event.

The question has been raised in the literature[1] as to the nature of English will: whether it is in fact a future tense, marking future time only, or whether it is a contingency marker, expressing a predicted result given certain conditions. In view of the recent research on language universals, and the possibility that data from other languages may be able to shed some light on the discussion, it is useful to investigate the so-called future marker in several languages, both related and unrelated to English. Because of the existence of several types of future-like constructions in English, and the apparent relationship among them, the following hypothesis was the basis for the cross-linguistic study:

> If a language has more than one verbal construction used to refer to future time, the construction which is traditionally considered to be the future will be more of an atemporal presumptive marker than a temporal (future) assertion.

To test the hypothesis, data on the future constructions and their usage were gathered in personal elicitation from native speakers of English, Spanish, Alsatian, Hebrew, Turkish, Malay and Korean.[2] Since each of the consultants spoke English as well as his/her own language, data were elicited by asking questions regarding the types of future marker employed (whether verbal affix, periphrastic construction or other means), alternate constructions which may indicate future time, the range of meanings of the future-marked sentences, and the co-occurrence of the future marker with conditional clauses and past-time markers.

Types of Future Markers

Of the seven languages surveyed, three have verbal suffixes (Turkish, Spanish and Korean), one (Hebrew) prefixes the future marker on the verb, and three have periphrastic auxiliary-type constructions (Alsatian, Malay and English).

Kansas Working Papers in Linguistics, Vol. 5, No. 1, pp. 133 - 138

	Verb Stem	Future Marker	Example
Turkish	gel-	-EjEk	ahmet gelejek 'Ahmet will come'
Spanish	ir	-é,-ás,-á, -emos,-án	el irá 'He will go'
Korean	ka-	-l kësi	næ ka kalkësita 'I will go'
Hebrew	g-m-r	e-,ti-,yi-	ani egmor 'I will finish'
Alsatian	driŋə	vuxt	əx vuxt driŋə 'He will drink'
Malay	pergi	akan	saya akan pergi 'I will go'
English	go	will	I will go

Other Constructions Which May Indicate Future Time

In all the languages surveyed except Hebrew, the present tense (aorist in Turkish) can be used to refer to future time. In English, Spanish and Turkish, the progressive may also be used. Alsatian has no verbal construction denoting progressive. In English and Spanish the 'going to' construction is very commonly used for future time. Following are examples from Turkish, Spanish, Korean, Malay and Alsatian which illustrate such future reference. (Note that the glosses exemplify similar usage in English.)

Turkish	Aorist	yarın ahmet gelir tomorrow A. come-aor	'Ahmet comes tomorrow'
	Prog.	yarın ahmet geliyor come-prog	'Ahmet is coming tomorrow'
	Future	yarın ahmet gelejek come-fut	'Ahmet will come tomorrow'

In Turkish, the use of the aorist or progressive to indicate future time is strongly dependent on context or on the presence of a time adverb to specify futurity. The use of the aorist implies that the speaker has less evidence for his assertion than is required for use of the future suffix -EjEk, while the progressive implies more evidence, practically certainty. This situation differs from English in that the speaker in Turkish makes a weaker assertion using the aorist than he makes when using the future. In English, use of the present constitutes a stronger assertion than use of the future. In both languages, however, use of the progressive is more of an assertion than use of the future.

Malay	Present	saya pergi beso? I go tomorrow	'I go tomorrow'
	Future	saya akan pergi fut	'I will go'
		saya akan pergi beso?	'I will go tomorrow'

The difference among these examples is again based on speaker's knowledge and degree of certainty, but here the time adverb adds to the strength of the assertion. In the akan sentences, the speaker is making an assertion when he uses the time adverb beso?; without it, he is only predicting.

Spanish	Future	el saldrá mañana	
		he leave-fut tomorrow	'He will leave tomorrow'
	'going to'	el va a salir mañana	'He is going to leave
		goes to leave	tomorrow'
	Present	el sale mañana	
		leave-pres	'He leaves tomorrow'
	Prog.	el está saliendo mañana	
		is leaving	'He is leaving tomorrow'

The Spanish speaker makes a distinction among these four alternatives again based on how certain he is regarding the prediction being made. If the event is scheduled, tickets bought, bags packed, the present or present progressive would be used. The 'going to' future, like the English equivalent, also requires strong evidence on the part of the speaker, such as having been told so by the actor. The future, on the other hand, requires only some knowledge of the actor's previous behavior patterns or other such indirect evidence.

Alsatian	Present	ɐx drioŋkt hʊt o:vɐ	'He drinks tonight'
		he drink-pres today evening	
	Future	ɐx vuxt drioŋɐ hʊt o:vɐ	
		fut	'He will drink tonight'

Here the speaker uses the present tense form of the verb to refer to future events only when he is certain of the occurrence, and uses the vuxt form as a probability construction, basing his conjecture on prior knowledge of the actor's behavior patterns.

Korean	Present	John-ɨn næju kɨmyoil-e pongkɨp-ɨl pat-nɨn-ta	
		topic next Friday-on paycheck-obj receive(pres)	
		week	
		'John gets his paycheck on Friday next week'	
		John-ɨn næil ohu-e thöwën ha-n-ta	
		tomorrow aft.-in hospital leave(pres)	
		'John leaves the hospital tomorrow afternoon'	
	Future	John-ɨn næil ohu-e thöwën ha-l kësita	
		leave (fut)	
		'John will leave the hospital tomorrow'	

Note that the example given as the future tense may also be understood to mean 'I presume that John will leave the hospital tomorrow'. Thus the future marker in Korean may indicate conjecture rather than certainty; to express the latter, the speaker will choose the present tense form of the verb.

Range of Meaning of Future-Marked Sentences

In five of the seven languages surveyed (English, Spanish, Turkish, Korean and Alsatian), the informants were quite clear in expressing the usage of the future marker as indicating possibility or probability. The words

used to describe the differences among the future and the various other possible future-time constructions were most commonly 'not as certain about it', only stating a possibility', or 'probably but not definitely'. In Hebrew, however, the response was quite different. For the Hebrew speaker, there is no other possible way to refer to future time save the above-mentioned prefixes, and the absence of a tense marker indicates aorist or generic/habitual action. The future construction in Malay (akan + verb) also appears to imply more certainty than the future in the five other languages (Turkish, Alsatian, Spanish, English and Korean). In Hebrew and Malay, other modal constructions are used to express possibility and probability.

English, Spanish, Korean, Turkish and Alsatian also use the future marker to predict unwitnessed or possible events or states co-occurring with the moment of speech, and in combination with a past or perfective marker to state a presumption about a past state or event. The following are examples of such usage.

English
He'll be at home now. It's after 5:00.
You'll have heard about Jack already, I'm sure.

Turkish
ahmet gelejekdi — 'Ahmet would have come'
come-fut-past
ahmet simdi evde olaĵak — 'Ahmet is probably at home now'
now house-loc be-fut

Alsatian
əx vuxt əmtsvɛlfə ɔnkomə — 'He'll probably come by 12:00'
he fut 12:00 come
dü vurš rä:št hɒn — 'You are probably right'
you fut right have
dü vurš mɪ:t sɪn gsɪn — 'You were probably tired'
tired be be-part.

Korean
John-i cikɨm cʰäk-ɨl ilk-ko iss-ɨl kës-i-ta
subj now book-OM read-prog. be-fut-decl.marker
'John will be/is probably reading the book now'
John-i əce tocʰak ha-ëss-ɨl kës-i-ta
yesterday arrive past future
'John will have arrived yesterday'

Spanish
Juan tendrá treinta años — 'John is probably 30 years old'
have-fut 30 years
Juan saldrá enojado — 'John will probably leave angry (if...)'
leave-fut angry
Juan habrá llegado ayer — 'John probably arrived yesterday'
have-fut arrive-part. yesterday

Contingency Clauses and the Future Marker

Since the nature of clauses dealing with conditions is inherently contingent, and the future marker was hypothesized as more contingent than

other possible future forms, it would seem to follow that the future marker would be redundant, and would not normally appear in such clauses. In five of the seven languages (Alsatian, English, Spanish, Malay and Korean) this was in fact the case, even in sentences very clearly referring to future time. In Turkish, the future marker can be used, but there is some question as to when and why. In Hebrew, the future must be used in any if or when clause as well as in the consequent clause.

Spanish si estudias mucho el año entrante saldrás mejor
if study-pres much year coming come-out-fut better
'If you study hard next year, you'll do better'

Alsatian wemex pɔl fɛrxd͡ɪs sɪn verə məx ɛssə ge'n
when-we soon finish be fut we eat go
'When we finish, we will (probably) go eat'

Malay jika dia pergi dia akan bawa? keretaña
if he go he fut bring car-his
'If he goes, he'll take his car'

Korean John-i näil o-myën mülë po këss ta
tomorrow come-if ask will decl
'John will ask him if he comes tomorrow'

Turkish In normal future-referent if clauses, where no particular outcome is being predicted, the aorist is used:

ahmet gelirse ban gideǰeim 'If Ahmet comes, I will go'
come-aor-if I go-fut-1st s.

But for situations where there is definite evidence that the condition will be fulfilled (e.g. Ahmet has accepted the invitation), the progressive would be used in the if-clause:

ahmet geliyorsa ban gelmiyeǰeim 'If Ahmet is coming, I won't
come-prog-if I come-neg-fut come'

The future can be used in a situation somewhat intermediate to these two:

ahmet geleǰekse ban gelmiyeǰeim 'If Ahmet comes, I won't come'
come-fut-if I come-neg fut

Hebrew Hebrew requires the use of the future marker in both condition and consequent:

im ata tiʁ?e oti anaxmo nesev yaxad
if you see-fut me we sit-fut together
'If you see me, we will sit together'

kese ata tihiye benesrim ata tilmad be universita
when you be-fut old-20 you learn-fut in university
'When you are twenty years old, you will study in the university'

Conclusion

In all the languages included in the study except Hebrew, there was at least one other verbal construction available for referring to future time:

Present tense as future: English, Spanish, Alsatian, Malay, Korean
Progressive as future: English, Spanish, Turkish
Going-to constructions: English, Spanish

In all cases except the Turkish aorist examples, the use of the future marker indicates less certainty of the occurrence on the part of the speaker than use of either the present, present progressive or going to future. In Turkish, the use of the future marker indicates less certainty than the use of the progressive. One can therefore conclude that there is a strong indication that in those languages where there is a choice, the speaker will normally choose the future marker rather than the available alternatives when he is less certain, and has less evidence at his disposal that the conditions for the occurrence of the future event will be fulfilled.

Footnotes

1. See Binnick 1971 and 1972.

2. I am grateful to the following people for their cooperation in providing me with language data:. Feryal Yavas, Marguerite Hessini, Abdul Aziz Idris, Nora Vera, Amparo Restrepo, Etti Dromi, and Professor Choon-Kyu Oh.

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THE TURKISH FUTURE MARKER

Feryal Yavaş

Abstract: The Turkish future marker has uses which can adequately be analyzed under the modal system of the language. This lends support to the hypothesis that futurity is as much a modal notion as a temporal one.

Introduction

There is growing linguistic evidence that indicates a close affinity between future tense markers and modal categories. Linguists report that in many languages future tense markers function as markers of a variety of mood/modal related notions like volition, supposition, intension, etc. (Lyons 1977:815-17, Ultan 1972:75-94). As early as 1931, Jespersen, pointing to the modal uses of will and shall, had concluded that there was no future tense in English. More recently, Binnick (1971, 1972) has given us a detailed account of will and be going to, showing the presuppositional differences that govern the use of these expressions and arguing for their quasi-modal function. Lakoff (1972) has gone one step further by classifying will among the modals of English; she considers will to be a modal that shows the highest degree of certainty.

Ultan (1972:80) suggests that this affinity between future and modal expressions is due to the element of uncertainty that is inherent both in future events and in the application of modal categories. The element of uncertainty as an inherent property of futurity is well recognized by philosophers who observe that there are ontological differences between the past and future. Gale (1968:103) writes:

> Since past events have become present, they have already won their ontological diplomas, unlike future events which still exist in a limbo of mere possibility.

The "openness" of the future as opposed to the "closedness" of the past is reflected in the kind of knowledge we speakers of natural languages possess and express in reporting future events. This knowledge is typically one of prediction with varying degrees of certainty. Descriptions of future events are not definite assertions but modalized utterances of presumption. Prediction is subsumed under this more general modal notion of presumption.

Given the above view that futurity is more of a modal than a temporal concept, it follows that the forms used to mark future in languages are, in fact, markers of presumptive modality. As such, they are employed in all contexts, regardless of the time reference, where presumption is involved. Thus, the use of the so-called future tense markers in utterances where futurity is not involved is in no way

Kansas Working Papers in Linguistics, Vol 5, No. 1, pp. 139 - 149

"deviant" or "special" as some linguists believe (Hornstein 1977). On the contrary, it is predictable and explainable.

In this paper I will examine the non-future uses of the "future tense" marker in Turkish and show that Turkish presents additional support for the above hypothesis.

Non-future Uses of the Turkish Future Marker

The morpheme -(y)EJEK[1] is analyzed as the future tense marker in Turkish; thus bašla 'begin'; bašlayaJak '(he/she/it) will begin'; gel 'come'; geleJeim 'I will come'. Yet there are certain contexts where -(y)EJEK is used despite the fact that the time reference is not future. Observe the following:

1. John - a telefon et - me, šimdi uyu - yor ol - aJak
   dat. telephone make - neg. now sleep - prog. be
   'Don't call John, he will be sleeping now.'

2. John šimdi kütüphane - de ol - aJak
   now library - loc. be
   'John will be at the library now.'

3. John dün - kü sınav - ı geč - miš ol - aJak
   yesterday - relative exam - acc. pass - perf. be

   ki yüz - ü gül - üyor
   complement face - pass smile - prog.
   'John must have passed yesterday's exam, that is why he looks happy.'

4. -Dün biri san - a telefon et - ti
   yesterday someone you - dat. telephone make - past

   -John ol - aJak
   be

   -'Someone called you yesterday.'

   -'That will be John.'

What seems to be the common element for the appropriate use of these -(y)EJEK utterances is the following: the speaker is dislocated either in place, as in (1-2), or in time, as in (3-4). The speaker is not in a position to make a categorical assertion. However, on the basis of his knowledge, he presumes that the situation holds true (did hold true) at the moment of speech (prior to the moment of speech), and he expresses this by employing -(y)EJEK. Thus, such utterances involve epistemically qualified propositions and -(y)EJEK functions as an epistemic modal. That this is the case can be seen in the -mElI counterparts of these sentences. The verbal ending -mElI is the Turkish modal that corresponds to English must/should[2], i.e., it is the necessity operator in Turkish. Replacing -(y)EJEK with -mElI in (1-4) does not result in any significant change in

meaning. Compare (2) with (5).

5. John šimdi kütüphane - de ol - malı
now library - loc be
'John must be at the library now.'

The reader will notice a close parallelism between English and Turkish. First, the future markers will and -(y)EJEK are used in contexts were futurity is not involved. Secondly, these contexts seem to overlap with those of the necessity operator so that the substitution of must for will and of -mElI for -(y)EJEK yields only a slight change of meaning[3].

In his attempt to give a unified account of English tenses, Hornstein (1977) considers all non-future readings of will as "deviant," as coming from the underlying modal will as opposed to the "normal" uses where will is the temporal future marker. In his view, the form will is ambiguous between temporal and modal meaning.

Following Hornstein's line of analysis, we can do the same for Turkish. We can posit homophonous forms -(y)EJEK$_1$ 'future marker' and -(y)EJEK$_2$ 'a modal'; but what would be achieved? Would we be any closer to explaining why two totally unrelated languages like Turkish and English present strikingly similar pictures with regard to their future marker? On the contrary, I believe this line of analysis would distort the picture by suggesting that what we find in English and Turkish is merely accidental. That is, Hornstein's line of analysis would suggest that these languages just happen to have homophonous forms for marking future and presumptive modality. Evidence from a variety of languages clearly indicates otherwise. The formal identity between the expressions of future and presumptive modality in languages can only be explained by recognizing their semantic affinity.

To return to -(y)EJEK, the non-future uses of this suffix are almost always ignored in the grammars of Turkish.[4] Underhill (1976:280), for example, takes the peripherastic form -mIš ol+aJak (perfective be+(y)EJEK) to be the marker of the "future perfect tense." This, of course, is due to his analysis that -(y)EJEK marks futurity, and only futurity, in Turkish. A quick glance at (3) would reveal that his analysis is not viable. What marks future in utterances like (6) is not -(y)EJEK, but the future time adverb.

6. John hafta - ya tez - in - i bitir - miš ol - aJak
week - dat. thesis - poss. - acc. finish
'John will have finished his thesis (by) next week.'

In the absence of a future time adverb and/or a future context, the event time is not interpreted to be in the future. In a neutral context, (7) can only mean 'I presume that John has finished his thesis by now.'

7. John tez - in - i bitir - miš ol - aJak
thesis - poss. acc. finish

There is an interesting difference between past and future adverbs

in the way they interact with -mIš olaǰak. Compare (8), (9), and (10).

8. John evlen - miš olaǰak
   get married
   'John will have gotten married (by now).'

9. John gečen sene evlen - miš olaǰak
   last year
   'John will have gotten married last year.'

10. John sene - ye evlen - miš olaǰak
    year - dat.
    'John will have gotten married (by) next year.'

'Last year' in (9) is understood to mark the time of the supposed event. However, 'next year' in (10) is interpreted as a time by which the marriage will have taken place. In other words, while the past adverbial marks event time, the future adverbial marks a time subsequent to event time at which the results of the event are observable. Let us call this 'reference time.'

It seems that in Turkish, time adverbials in sentence initial position can only mark reference time. If 'last year' in (9) is preposed to the initial position, the sentence becomes awkward; no such change is observed when 'next year' of (10) undergoes preposing.

11. ?? Gečen sene John evlen - miš olaǰak
    last year get married
    'Last year John will have gotten married.'

12. sene - ye John evlen - miš olaǰak
    year - dat. get married
    '(By) next year John will have gotten married.'

This difference in the behavior of past and future adverbials should not be taken as an indication of the different functions of -(y)EǰEK (i.e., modal vs. temporal), for the same facts are observed with other modals. As with -(y)EǰEK, the peripherastic forms consisting of the perfective -mIš plus the modal can be used both for past and future reference. Moreover, the past and future adverbials present the same difference with these forms i.e., past adverbs marking event time, and future adverbials marking reference time. Compare (8-10) with the following:

13. John evlen - miš ol - malɨ
    get married
    'John must have gotten married (by now).'

14. John on gün önǰe evlen - miš ol - malɨ
    ten day before/ago
    'John must have gotten married ten days ago.'

15. John hafta - ya evlen - miš ol - malı
week - dat.
'(Lit): John must have gotten married (by) next week.'

16. John evlen - miš ol - abil - ir
get married perf. be may/can aorist.
'John may have gotten married (by now).'

17. John dün evlen - miš ol - abil - ir
yesterday
'John may have gotten married yesterday.'

18. John yaz - a evlen - miš ol - abil - ir
summer - dat.
'(Lit): John may have married (by) next summer.'

What we observe is a very consistent pattern for modals in Turkish. In this respect, Turkish differs from English, for in the latter will have can collocate with future adverbials but may have and must have collocate only with past adverbials, not future adverbials[5].

The use of -(y)EJEK as the presumptive marker in sentences with non-future reference is not limited to matrix clauses. Compare (19) with (20):

19. Mary John - un šimdi ev - de ol - du - un - u
gen. now home - loc. be - particip. - poss. - acc.
söyl - üyor
say - prog.
'Mary says that John is at home now.'

20. Mary John - un šimdi ev - de ol - aJa - ın - ı söyl - üyor
gen. now home loc. be poss. acc. say - prog
'Mary says that John will be at home now.'

In Turkish, that-complements are genetive constructions. They require that the genitive suffix be attached to the subject NP and that the possessive suffix that agrees with the subject in number and person be suffixed to the participle. The participles are -DIK and -(y)EJEK and choice among them is, according to Turkish grammars, governed by tense: "The suffix -(y)EJEK is used when the tense of the corresponding simple sentence is future; the suffix -DIg is used in all other cases." (Underhill 1977:322). In the light of (20) we can see that statements like this are not accurate. The difference between (19) and (20) is clearly not one of time but one of presence vs. absence of presumptive modality.

Now observe the modal -Ebil in the following:

21. Mary John - un evlen -miš ol - abil - eJe - in - i söyl - üyor
gen. get married perf. be may/can poss - acc. say - prog.
'Mary says that John may have gotten married (by now).'

22. Mary John - un kırk yaš - ın - da ol - abil - eȷe - in - i söyl - üyor
gen. forty year poss. loc. be may/can gen. acc. say prog.
'Mary says that John may be forty years old.'

The modal -Ebil is ambiguous between possibility, ability and permission readings. In utterances like (21) and (22), where the intended meaning is that of possibility, the use of -(y)EȷEK as opposed to -DIK is obligatory. That is, whenever -Ebil is used as an epistemic modal, it is -(y)EȷEK and not -DIK that occurs in the clause. To put it another way, the ambiguous -Ebil can be interpreted epistemically only when -(y)EȷEK is present in the clause. This implies that there is an affinity between epistemic modality and -(y)EȷEK, and it supports our claim that -(y)EȷEK is not a simple temporal marker.

So far, we have looked at the use of -(y)EȷEK in non-future contexts. Let us now consider another context where the analysis of -(y)EȷEK as a mere future tense marker fails.

Observe the antecedent clause of the following indicative conditionals:

23. John uyu - r - sa čalıš - abil - ir - im
sleep aorist conditional work may/can aorist 1 sg.
'If John sleeps, I can work.'

24. John evlen - ir - se Mary čok sevin - ir
get married aorist cond. very be happy aorist
'If John gets married, Mary will be very happy.'

25. John telefon ed - er - se beš - de tekrar ara - ma
telephone make aorist condit. five loc. again look for infinitive
- sın - ı söyle
poss. acc. say
'If John calls, tell him to call back at five o'clock.'

Notice that the time reference of these antecedent clauses is future (otherwise we would have -(I)yor for 'present' and -DI for 'past': cf. uyu-r-sa 'if he/she sleeps', uyu-yor-sa 'if he/she is sleeping', and uyu-du-ysa 'if he/she slept'), yet we do not find -(y)EȷEK. If -(y)EȷEK were a simple future tense marker, one would expect it to occur in these clauses.

The absence of -(y)EȷEK in (23 - 25) does not, however, mean that it never occurs in antecedent clauses. Compare (26 - 27) with (23 - 24):

26. John uyu - yaȷak - sa čalıš - abil - ir - im
sleep cond. work may/can aorist 1 sg.
'If John is going to sleep I can work.'

27. John evlen - eȷek - se Mary čok sevin - ir
get married cond. very be happy aorist
'If John is going to get married, Mary will be very happy.'

In an antecedent clause, -(y)EȷEK implies that the future event is a

result of a present decision, intention, plan, cause, etc. The main clause is dependent, so to speak, on this present decision etc. and not on the future event. For example, (27) can be paraphrased as 'If John has the intention of getting married (or has decided to get married), Mary will be happy.' In other words, Mary will be happy if it turns out that John has such an intention. In (24), on the other hand, Mary's happiness is dependent on the actualization of John's marriage.

It is true that there are cases where the element of intention, decision, etc. is implied even in the absence of -(y)EǰEK. Consider the following:

28. Araba - n - ɨ sat - ar - sa - n ben al - ɨr - ɨm
car poss. - acc. sell - aorist - cond. 2 sg. I buy - aorist - 1 sg.
'If you sell your car, I'll buy it.'

29. Araba - n - ɨ sat - ar - sa - n ban - a haber ver
I dat. news give
'If you sell your car, let me know.'

The only possible interpretation of (28) is 'If and when you decide to sell your car, I'll buy it.' Unlike (28), (29) is ambiguous, it could mean either 'I want to be informed if and when my addressee sells his car' (i.e., after the selling takes place) or 'I want to be informed if and when he decides to sell his car.'

There is, however, a crucial difference as to the moment of decision between (28 - 29) and their counterparts with -(y)EǰEK.

30. Araba - n - ɨ sat - aǰak - sa - n ben al - ɨr - ɨm
car poss. acc. sell cond 2sg. I buy aorist - 1 sg.
'If you are going to sell your car, I'll buy it.'

31. ??Araba - n - ɨ sat - aǰak - sa - n ban - a haber ver
car poss. acc. sell cond 2 sg. I dat. news give
'If you are going to sell your car, let me know.'

In (30 - 31), it is no longer if and when my addressee decides to sell his car, but rather if he presently has the intention/decision to do that. I believe (31) is awkward because the consequent clause suggests the opposite of the antecedent clause, i.e., the consequent clause presupposes that the addressee is not in a position to tell 'now' whether or not he has such an intention, but the antecedent clause implies that he is. Once we change the consequent clause and make it compatible with the assumptions of the antecedent, (31) becomes perfectly natural.

32. Araba - n - ɨ sat - aǰak - sa - n, söyle
say
'If you are going to sell your car, tell (me).'

The naturalness of (32) as opposed to (31) indicates that -(y)EǰEK in antecedent clauses marks the present intention, decision, etc. of the

future action.

The above hypothesis predicts that, when the verb in the antecedent clause denotes a mental and/or psychological state, -(y)EJEK would not be appropriate. Normally, no conscious exercise or effort is required for achievement of such states and, therefore, they cannot be planned, programmed or decided upon. The following unacceptable sentences show that this is precisely what we find:

33. ??John Mary - i sev - ejek - se evlen - ir
acc. like cond. get married aorist
'If John is going to like Mary, he'll marry (her).'

34. ??John Mary - i tanı - yajak - sa iš - e al - ır
acc. recognize cond. work dat. take aorist
'If John is going to recognize Mary, he'll hire (her).'

Now, consider the following sentences:

35. araba - m - ı sat - ajak - sa - m sen al - ır - mı - sın?
car poss. acc. sell - cond - 1 sg. you buy - aorist - ques. - 2 sg.
'If I am to sell my car, will you buy (it)?'

36. sınav - a gir - ejek - se - m san - a haber ver - ir - im
exam - dat. enter cond. - 1 sg. you - dat. news give - aorist 1 sg.
'If I am to take the exam, I'll let you know.'

When the speaker and the grammatical subject of the antecedent clause are the same person, as in (35 - 36), the use of -(y)EJEK often implies a quasi-imperative situation in which the speaker is under the command or order of another individual. It is understood that the decision is being made by someone other than the speaker himself. Given our hypothesis for -(y)EJEK and the semantics of conditionals, it should not be surprising that we get a quasi-imperative interpretation. If -(y)EJEK indeed marks present intention/decision, as I claim it does, then the decision maker in these utterances can not possibly be the speaker himself. If the speaker is the decision maker, his use of a conditional construction would violate Gricean maxims governing conversation; in particular, the maxim of quantity which states that one should make his contribution as informative as is required. Whether or not we should analyze the quasi-imperative reading of such utterances as conversational implicatures, resulting from the interplay of what is said and the rules of conversation, is beyond the scope of this paper. It should be pointed out, however, that the imperative interpretation of -(y)EJEK utterances is not restricted to the conditionals. Like English will, -(y)EJEK is frequently used to give orders or commands.

37. šimdi do:ru yata - a gid - ejek - sin
now straight bed - dat. go 2 sg.
'Now you will go straight to bed.'

38. ders - in - i bitir - meden bu oda - dan čik - mı - yajak - sın
lesson - poss - acc finish before this room - abl. leave - neg 2 sg.
'You will not leave this room before you finish your lesson.'

Turning back to conditionals and antecedent clauses, the likelihood of the fulfillment of a condition is perceived to be greater when -(y)EJEK is present than when the aorist morpheme is used. Of course, this is only natural in the light of what is said above. We can say that the fulfillment of a condition expressed in an antecedent clause containing the aorist morpheme is assumed to be merely possible, but in an antecedent clause containing -(y)EJEK, it is assumed to be probable.

Conditional sentences proved once again that -(y)EJEK is not a mere future marker. Futurity in the antecedent clause is not marked by -(y)EJEK. When -(y)EJEK is used, it indicates notions like intention, plan, etc. In the literature, it has been observed that, typically, epistemic modals do not occur in antecedent clauses where other modalities are allowed. The reason for this might be that, since antecedent clauses themselves involve epistemic modality, it would be redundant to employ another epistemic modal operator. In English, for example, may and must are interpreted deontically, marking permission and obligation, respectively, when they occur in if-clauses. The same is true for Turkish. Given this, we now find, once again, a parallelism between -(y)EJEK and other epistemic modals. If a future marker is one type of epistemic modality marker, as we have assumed, then it is predictable that future markers would not be allowed in antecedent clauses; or if allowed, they would show some other semantic function. As we have seen, when -(y)EJEK occurs in an antecedent clause, it expresses intention, decision, etc., which are not strictly epistemic concepts.

Conclusion

Even in a relatively well-studied language like Turkish, there are areas which still require a much more thorough examination. The semantics of the verbal suffix -(y)EJEK is one such area. In this short paper I have tried to show that this suffix has a function in the modal system of the language in addition to its function in the tense system. The modal function of -(y)EJEK has been totally ignored in the literature. I have shown that the atemporal, modal function of this suffix is similar to that of the atemporal function of the future marker of an unrelated language like English. This similarity can not be accidental, and should be assessed in the light of the hypothesis that futurity is as much a modal notion as a temporal one.

Footnotes

1. The capital letters stand for morphophonemic representations

E:	/e, a/	D:	/t, d/
I:	/i, ɨ/	K:	/k, Ø/

2. Actually, like English must, should, -mElI is ambiguous between epistemic and deontic readings:

eg. Ahmet šimdi ev - de ol - mali
now home - loc. be
(a) It is necessary that John is at home now (epis).
(b) John is obliged to be at home now (deontic).

With stative verbs, the epistemic reading is more likely; the same is true with perfective and progressive aspect.

3. In both languages, the use of the future marker implies stronger presumption than the necessity operator. Yet, there seem to be differences in the interchangeability of the future marker with the modal in the two languages. It appears that in English, if the assumption is based only on circumstantial evidence, will can not be used. This is not so in Turkish. Sentence (3) demonstrates this difference in that will can not replace must in the English translation.

4. Underhill (1976), Lewis (1975), and Swift (1963) do not even mention such uses of -(y)EJEK and the grammars written by Turkish linguists often spare not more than a sentence or so for these.

5. Hornstein (1977) uses these facts related to the adverbial collocations of modals as arguments for positing two wills. He argues that the fact that will have but not must have or may have can collocate with future adverbials proves that the will of will have is not a modal.

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A BIBLIOGRAPHY ON MODALITIES

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CONTENTS - PREVIOUS VOLUMES

Volume 1, 1976 Walt Hull, Editor

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Towards A Universal for Deictic Verbs of Motion, *V. C. Gathercole*

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Volume 4, No. 1, 1979 Geoffrey Gathercole and Kurt Godden, Editors

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